ILLUSTRATED KEYS TO THE GENERA OF JUMPING SPIDERS (ARANEAE: SALTICIDAE) IN AUSTRALIA

VALERIE TODD DAVIES AND MAREK ŻABKA

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From the keys, accompanying notes and illustrations 57 presently described genera of Australian salticids can be identified. Four genera, *Rhombonotus, Canama, Jotus* and *Prostheclina* have been reinstated. Three genera, *Harmochirus, Omoedus* and *Mintonia* are newly recorded from northern Australia. The following spiders are illustrated for the first time: ♀ *Canama hinnuleus*, ♀ *Cocalus gibbosus*, ♂ *Coccorchestes ferreus*, ♀ *Hypoblemum* sp., ♂ *Ligonipes* sp., ♂ *'Lycidas' michaelseni*, ♀ *Maratus* sp., ♂ *Prostheclina pallida*, ♀ *Sandalodes bipenicillatus*, ♀ *'Trite' daemelii*, and ♀ *'Trite' longula*. *Discocnemius* Thorell, 1881 and *Haterius* Simon, 1900 are newly synonymised with *Ligonipes* Karsch, 1878, resulting in new combinations: *D. lacertosus* = *L. lacertosus* (Thorell, 1881) n. comb.; *H. semitectus* = *L. semitectus* (Simon, 1900) n. comb. The Australian *Pystira* spp. have been transferred to *Zenodorus* thus *P. orbiculata* = *Z. orbiculatus* (Keyserling, 1881) n. comb. and *P. obscurofemorata* = *Z. obscurofemoratus* (Keyserling, 1881) n. comb.

□ *Key, Salticidae, jumping spiders, Australia.*

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In Koch and Keyserling's (1871–1883) monumental three volume work, *Die Arachniden Australiens*, more than 150 species of jumping spiders, mostly from Australia, were described. The work was well illustrated and contained a key to 46 genera, based mainly on habitus, lengths of legs and arrangement of eyes. Because these volumes are rare it seems opportune to publish new illustrations of as many Australian genera as we can identify and to construct keys using more reliable characters. We recognise that many more genera and hundreds of species are yet to be described.

Subsequent accounts of the genera of jumping spiders have dealt with the salticid genera of the world. A historical review was given by Peckham and Peckham (1885). Finding some names were preoccupied, they provided several new generic names, including 5 for Australian spiders (see list of genera p. 191). They also gave a key to 84 genera, rather less than were then described because the descriptions on which their key was based were too incomplete for some genera to be included. Simon (1897–1903) separated the jumping spiders of the world into 3 major divisions depending on the retromarginal dentition of the chelicera — the Pluridentati with several teeth, the Fissidentati with a divided tooth and the Unidentati with a single tooth or none; the last is by far the largest group. Whether the system is artificial (Żabka believes that it is) or not, it seems to be a practical and sensible way to structure keys when so few sub- families are sufficiently defined to be of use in this respect. It says much for Simon's analytical skill that these divisions, which he considered 'peut-être un peu artificielles', are still used. It is clear that within these divisions many natural groups of genera can be recognised. Simon (*loc. cit.*) gave keys to 'groupes' (some of which have since been recognised as sub-families) and within the 'groupes' he gave keys to genera. These keys, in association with the illustrations from Koch and Keyserling (*loc. cit.*) are the main basis for the identification of genera in Australia today. Petrunkevitch (1928) recognised and gave keys for 23 sub-families arranged, somewhat reluctantly, in Simon's three divisions; he listed the genera in the sub-families.

Chrysanthus (1968) redescribed and figured 20 salticid species from New Guinea, nearly all of which are also found in northern Australia. In recent revisions Wanless (1978, 1981, 1984a, 1984b) has redescribed and figured several Australian 'pluridentí' genera, culminating in his revision (1988) of the Astieae. This is the first and only comprehensive revision of a group of Australian salticids and in it he gives keys to genera and species.

Prószyński's (1984, 1987) recent atlases of specimens in European museums have been valuable. Żabka's (1987a, 1987b) drawings of some of the existing types are reproduced in this paper, along with other drawings from types and

many from fresh material. The key is divided into 3 sectional keys, the Pluridentati (16 genera), the Fissidentati (13 genera) and the Unidentati (28 genera). Short notes on the genera are given below the relevant part of the keys. Occasionally attention is drawn to the similarity between genera with different cheliceral dentition, suggesting that these are closely related e.g. *Harmochirus* (fissident) and *Bianor* (unident).

Many of the Australian spiders described by early workers were assigned to Northern Hemisphere genera to which they do not belong. In many cases this has been recognised and new names have been given or transfers made to other described genera. We recognise that several of the latter do not belong in these genera either. No new names have been supplied here as it is hoped that proper diagnoses and revisions of the genera will accompany such a move. The present names of seven such genera are placed in single inverted commas to indicate their indeterminate status e.g. *'Breda' jovialis*.

Salticids are seldom less than 2.0mm in length, most are between 4.0–8.0mm. Unlike most spiders the males often exceed the females in size. The lengths of spiders in the size classes used are as follows: 'small', less than 4.0mm; 'medium', 4.0–8.0mm; 'large', more than 8.0mm.

The following abbreviations are used: ALE, anterior lateral eyes; AME, anterior median eyes; PLE, posterior lateral eyes and PME, posterior median (or middle) eyes.

A glossary of most of the terms used may be found in Davies (1986). Other terms: 'fossa(e)', the single or paired epigynal indentation(s) within which the gonopores are situated; *'pars cephalica'*, the anterior part of carapace, in front of PLE; *'pars thoracica'*, the posterior part of carapace, behind PLE; 'ocular quadrangle', quadrangle formed by ALE and PLE; 'posterior ocular quadrangle', quadrangle formed by PME and PLE.

ILLUSTRATIONS

Figures and labels on Plates 1 and 2 show the general structure of salticids and introduce the terminology used. The rest of the illustrations are an essential part of the keys and should be examined as these are worked through. In almost all instances, a dorsal view of the ♀ is drawn and often a lateral view of the carapace to show height. A ventral view and a 'cleared' view of the epigynum are given. The latter may be ventral, dorsal or a combination of both views; sometimes a schematic drawing showing the course of the insemination ducts to spermathecae and to fertilization ducts is included. The ♂ habitus is occasionally drawn; ventral and retrolateral views of the left palp of the ♂ are given. Leg 1 and a chelicera of the ♂ and ♀ may be drawn. The labium and endite(s) are illustrated if they are diagnostic. Usually only structures that do not appear in Plates 1 or 2 are labelled in subsequent Plates. An asterisk following the name of the species on the Plate indicates it is the type species of the genus. The drawings were done by Żabka using a grid system; some additional illustrations were done by Sybil Monteith using a *camera lucida*.

APPENDIX

An appendix gives the geographical localities of the specimens that have been drawn. Where a 'type specimen' has been examined the initials of the Museum where it is deposited is given.

ACKNOWLEDGEMENTS

We thank the Council of the Australian Biological Resources Study for the financial support of Marek Żabka while he did the illustrations for this paper at the Queensland Museum between July and October 1987. He supplied some additional drawings while holding the Australian Museum Fellowship 1987/88 in Sydney. We are grateful to the Directorate of the Queensland Museum for their support of Sybil Monteith who did supplementary drawings (unsigned) and the final lay-out of the illustrations. We thank Mr F. Wanless for permission to copy his drawings of ♀ *Adoxotoma nigroolivacea* and ♂ *Mintonia tauricornis*.

We are grateful to Dr M. Gray for use of several spiders from the Australian Museum (AM), and the following colleagues for allowing examination of types in their collections: Mr F. Wanless and Mr P. Hillyard, British Museum of Natural History, London, England (BMNH); Dr G. Rack, Zoologisches Institut und Zoologisches Museum, Hamburg, BDR (ZMH); Dr J. Heurtault, Museum National d'Histoire Naturelle, Paris, France (MNHP); Dr M. Moritz, Museum fur Naturkunde der Humboldt — Universitat, Berlin, DDR (ZMB); Dr S. Langemark, Zoologisk Museum, Universitetspaken, Copenhagen, Denmark (ZMK); Dr Arbocco, Museo Civico di Storia Naturale, Genoa, Italy (MCG).

We wish to thank the Director, members of the Board of Trustees and members of the Queensland Museum for their courtesy and support during preparation of this paper.

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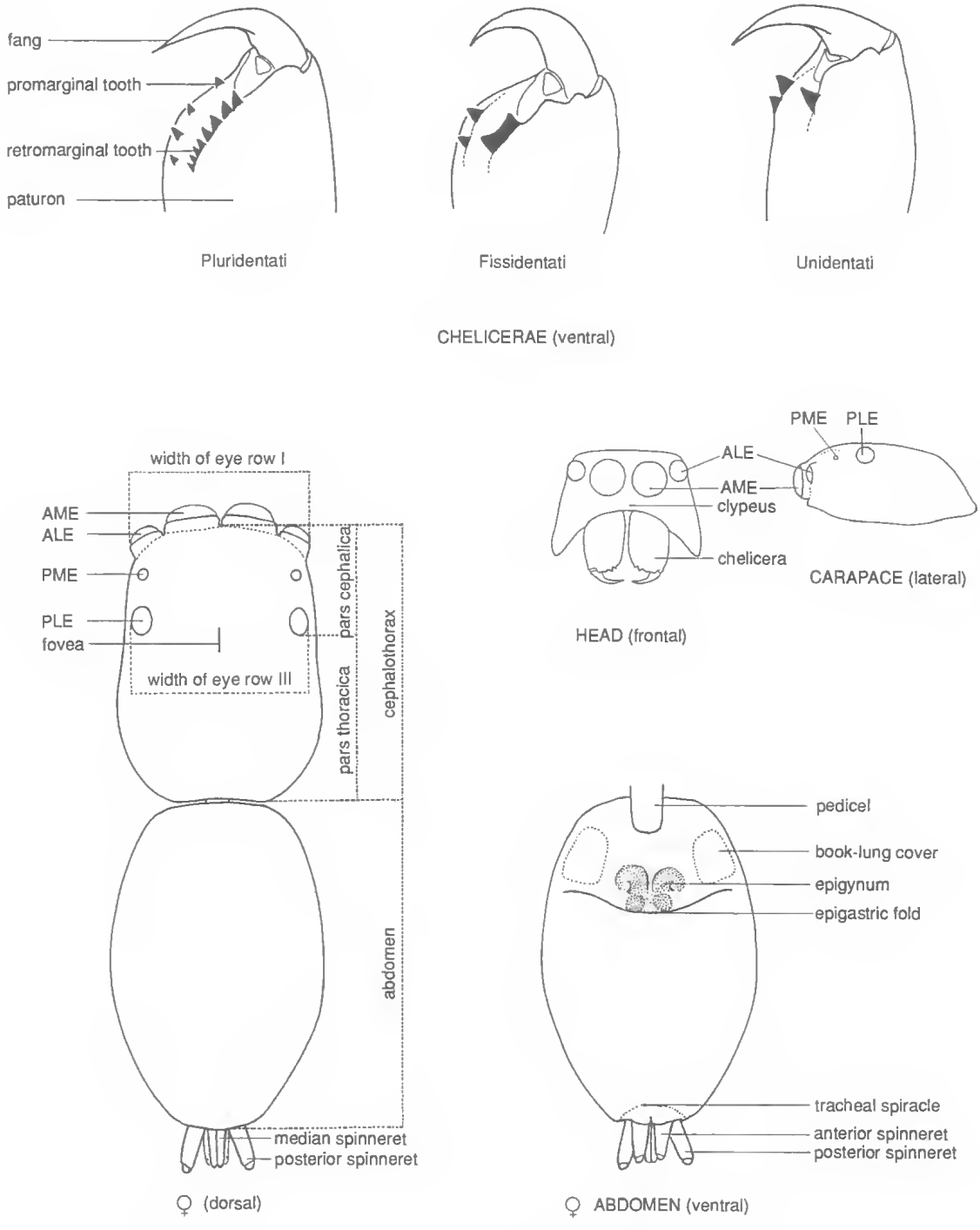
INDEX TO GENERA

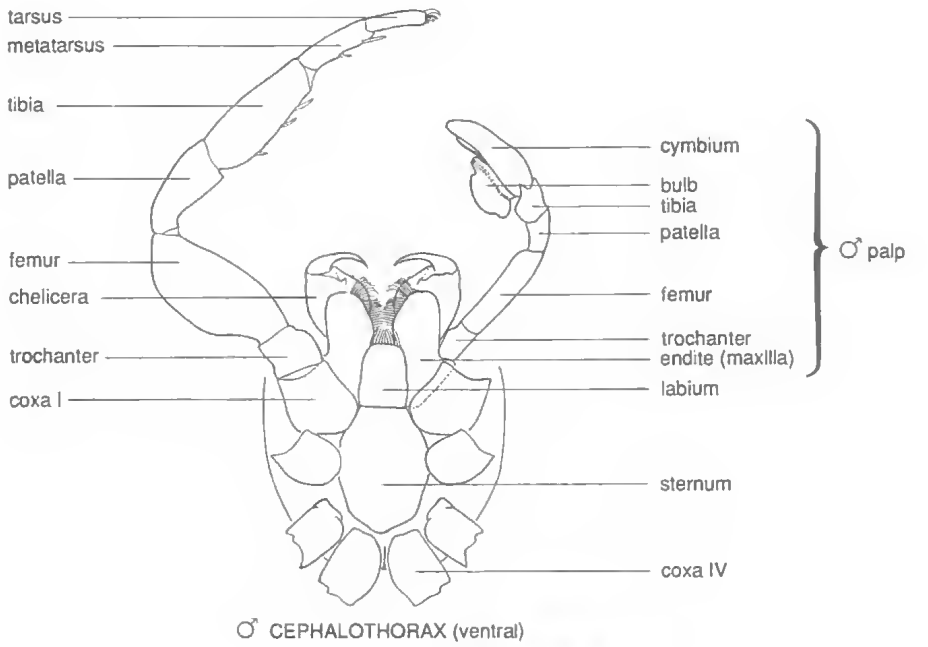
KEY TO FAMILY SALTICIDAE

The family is divided into 3 sections, based on the dentition of the inferior (retro-) margin of the chelicera (Plate 1). Separate keys are then given for each section.

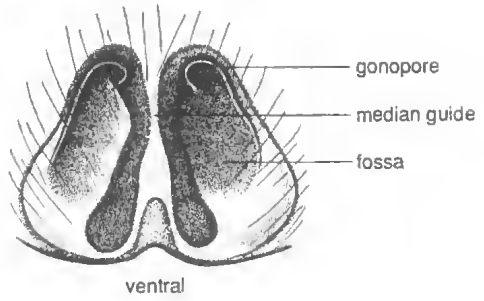
1. Retromargin of chelicera with many teeth, isolated or in series ....(p.194) PLURIDENTATI
– Retromargin of chelicera with one tooth 2
2. Cheliceral tooth with 2 cusps, rarely truncated or serrulate ....(p.214) FISSIDENTATI
– Cheliceral tooth simple, occasionally absent ....(p.230) UNIDENTATI



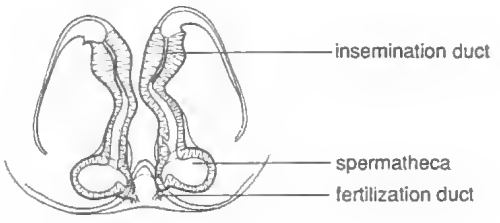
1. MORPHOLOGY OF SALTICIDAE



♂ CEPHALOTHORAX (ventral)

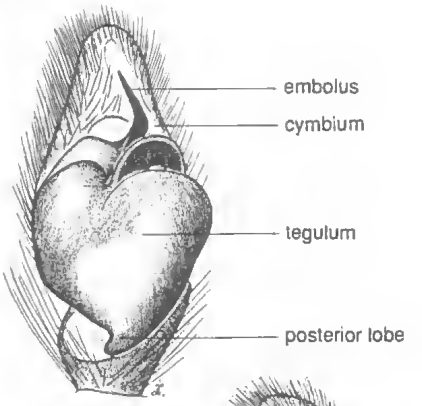


ventral

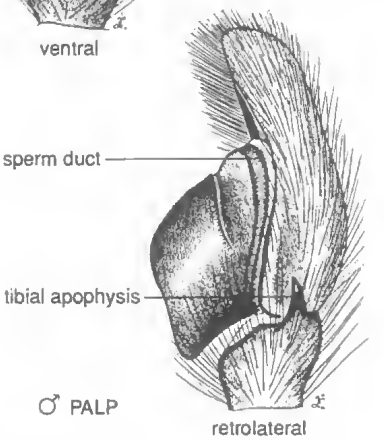


ventral (cleared)

EPIGYNUM



ventral



♂ PALP

retrolateral

2. MORPHOLOGY OF SALTICIDAE

PLURIDENTATI — KEY TO GENERA

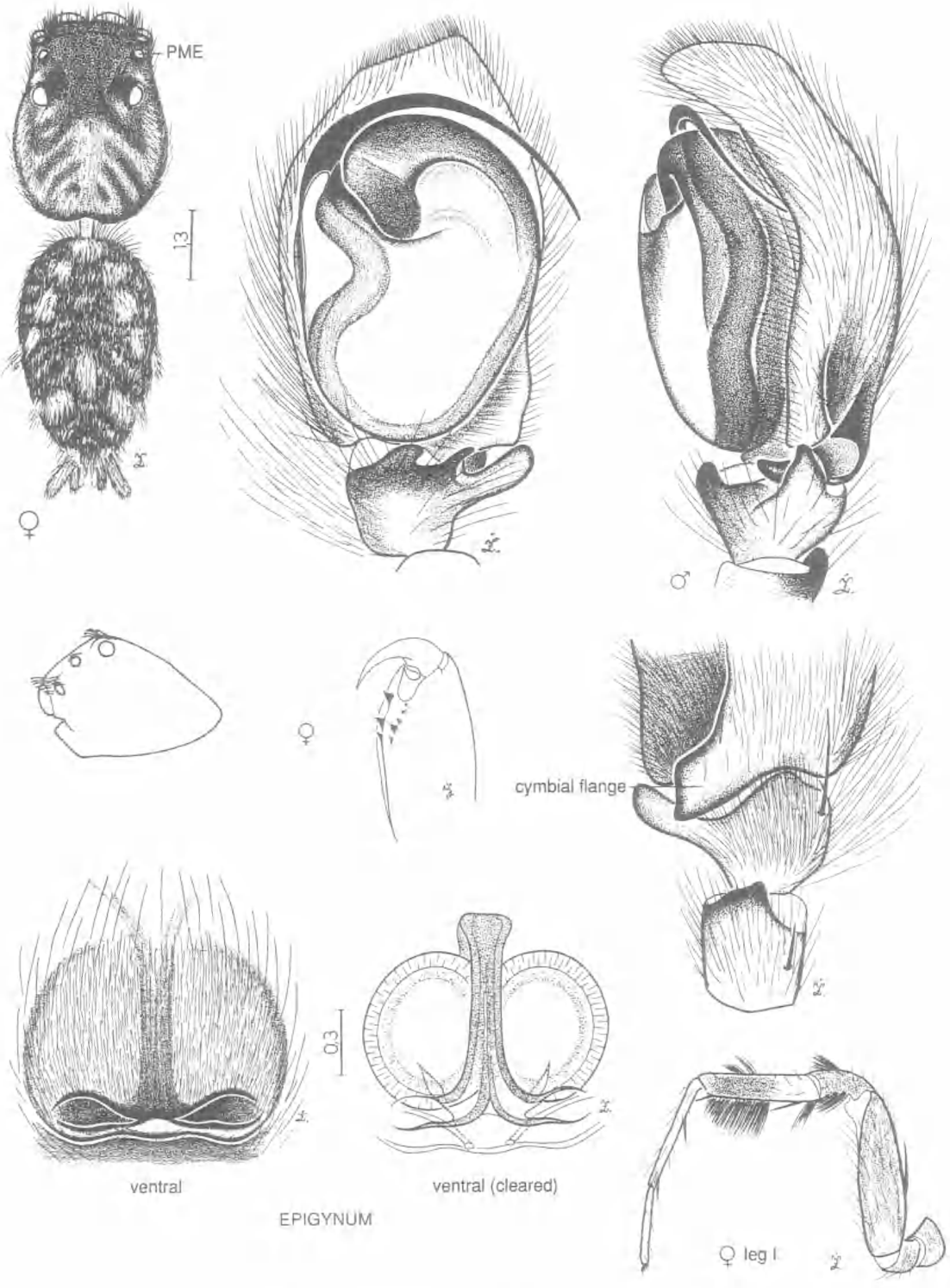
1. Middle eyes (PME) relatively large; *pars cephalica* rising steeply to high point at level of PLE .. 2
– Middle eyes small; *pars cephalica* flat or rising gradually 4
2. Abdomen with tufts of hair; legs with fan-like fringes ..... (Pl. 3) *Portia* (northern Australia)
– Abdomen without tufts of hair; legs without obvious fringes 3
3. Small, low prominence in posterior ocular quadrangle ..... (Pl. 4) *Cocalus* (northern Queensland)
– Without small prominence in posterior ocular quadrangle .....(Pl. 5) *Mintonia* (northern Queensland)
4. Thoracic fovea unusually long. ♀ epigynum with notched posterior margin .....(Pl. 6) *Cyrba* (introduced)
– Thoracic fovea not unusually long. ♀ epigynum otherwise 5
5. Spiders ant-like. Carapace at least 1.5× longer than wide; widest part of carapace at or in front of PLE. Abdomen slightly constricted in the anterior third 6
– Spiders not ant-like. Carapace not much longer than wide (exc. *Copocrossa*); widest part of carapace behind PLE. Abdomen not constricted 9
6. ♀ and ♂ tibia I heavily fringed 7
– ♀ and ♂ tibia I unfringed or very lightly fringed 8

Wanless (1978b) gives synonymies of *Portia* and *P. fimbriata*. There is an excellent coloured photograph of *P. fimbriata* in Jackson (1985a) showing its strange habitus particularly its tufted tibiae and thin elongate metatarsi and tarsi. At rest, in other spiders' webs, it resembles detritus. Reports of *Portia* spp. entering other spiders' webs are documented in Wanless (*loc. cit.*). Coleman (1978) and Murphy (in Wanless 1978b) appear to have been the first persons to observe the web-building of this highly specialised salticid. The biology of *P. fimbriata* has since been extensively studied by Jackson (1982a) and others. Williams and McIntyre (1980) showed that the anterior median eyes of *P. fimbriata* have a telephoto component enabling it to increase the image size and thus assist in the stalking and catching of prey. For further references on behaviour see Jackson and Hallas (1986a).

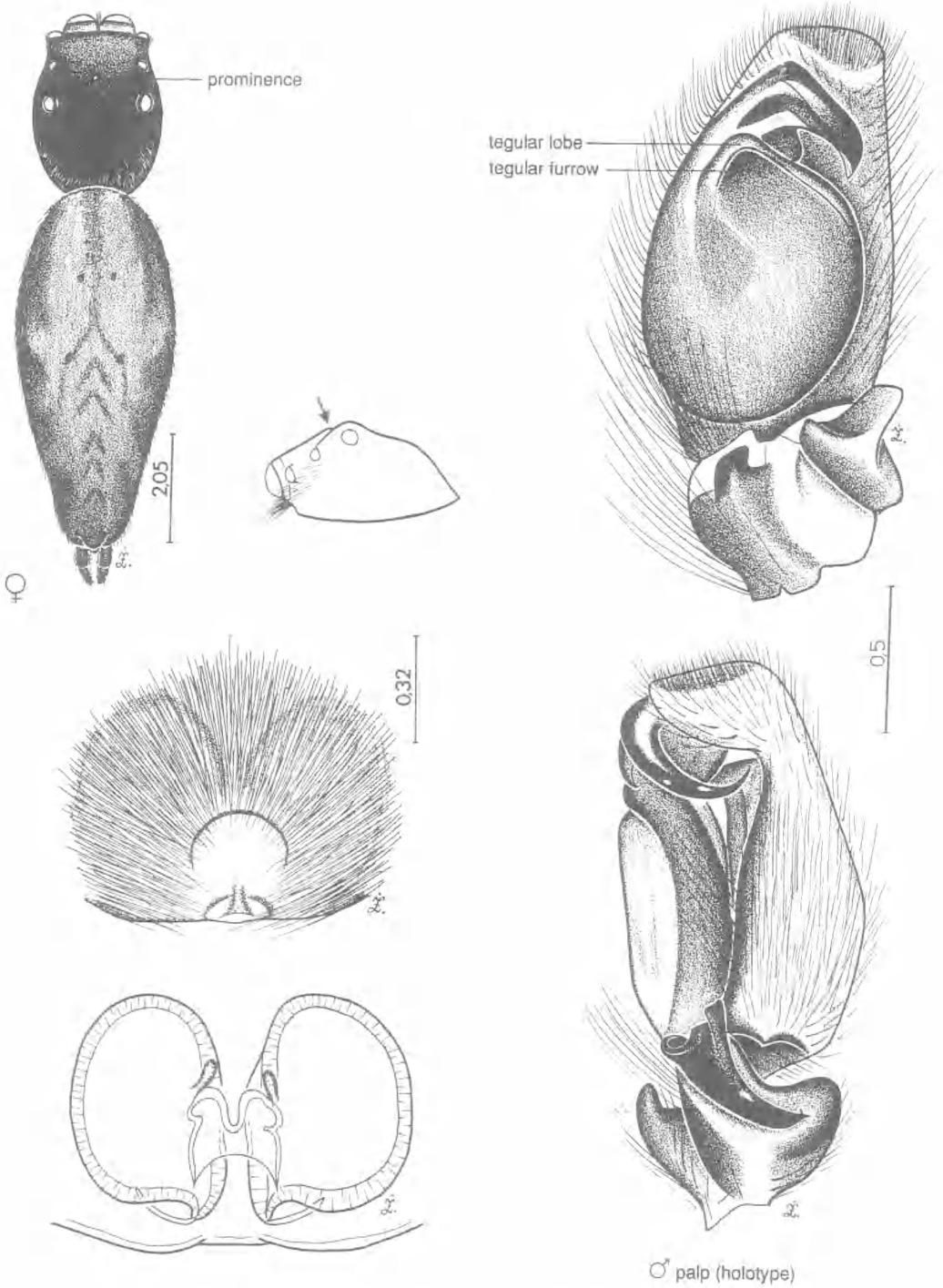
Wanless (1981) revised *Cocalus* and described ♂ *C. gibbosus*. The ♀ is figured here for the first time. *Opisthoncus*, a fissident spider, also has a small prominence in the posterior ocular quadrangle, and occasionally it has plurident dentition; the structure of the ♂ palps and ♀ epigyna easily distinguish the genera.

Mintonia is recorded from Australia for the first time. To give some idea of the ♂ palp, drawings of *M. tauricornis* from Sarawak have been copied from Wanless (1984a).

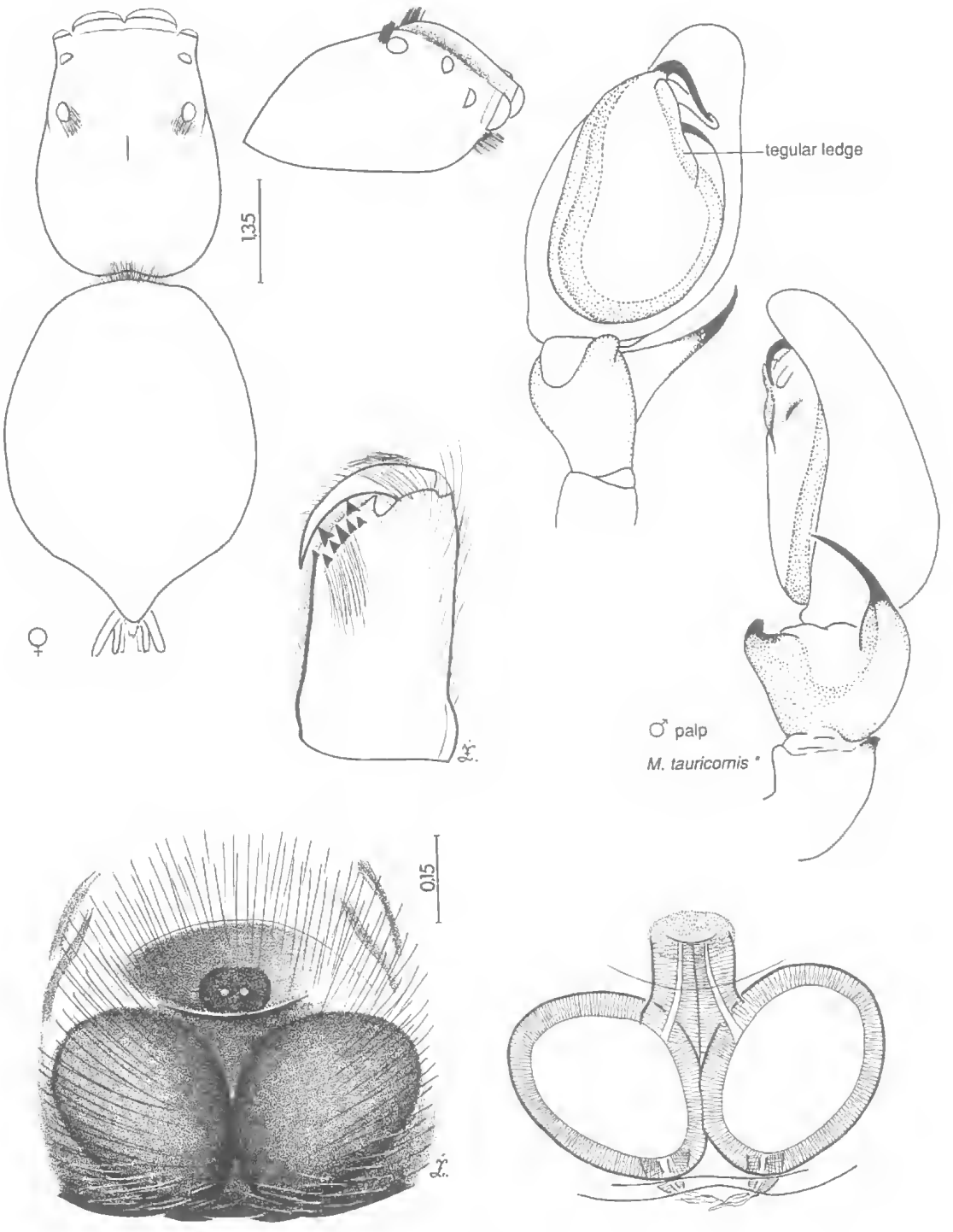
See Wanless (1984b) for synonymies of *Cyrba* and *C. ocellata*. In his revision Wanless (*loc. cit.*) gives excellent micrographs of the abdominal secretory organs of *Cyrba* spp. and discusses their possible significance. Jackson and Hallas (1986b) give behavioural data on *C. algerina*, which probably applies to all *Cyrba* spp. As well as being an effective cursorial predator of insects it invades other spiders' webs to eat them, their eggs and their kleptoparasites. *Portia, Cocalus, Mintonia* and *Cyrba* are among those that Wanless (1984a) has assigned to the sub-family Spartaeinae.



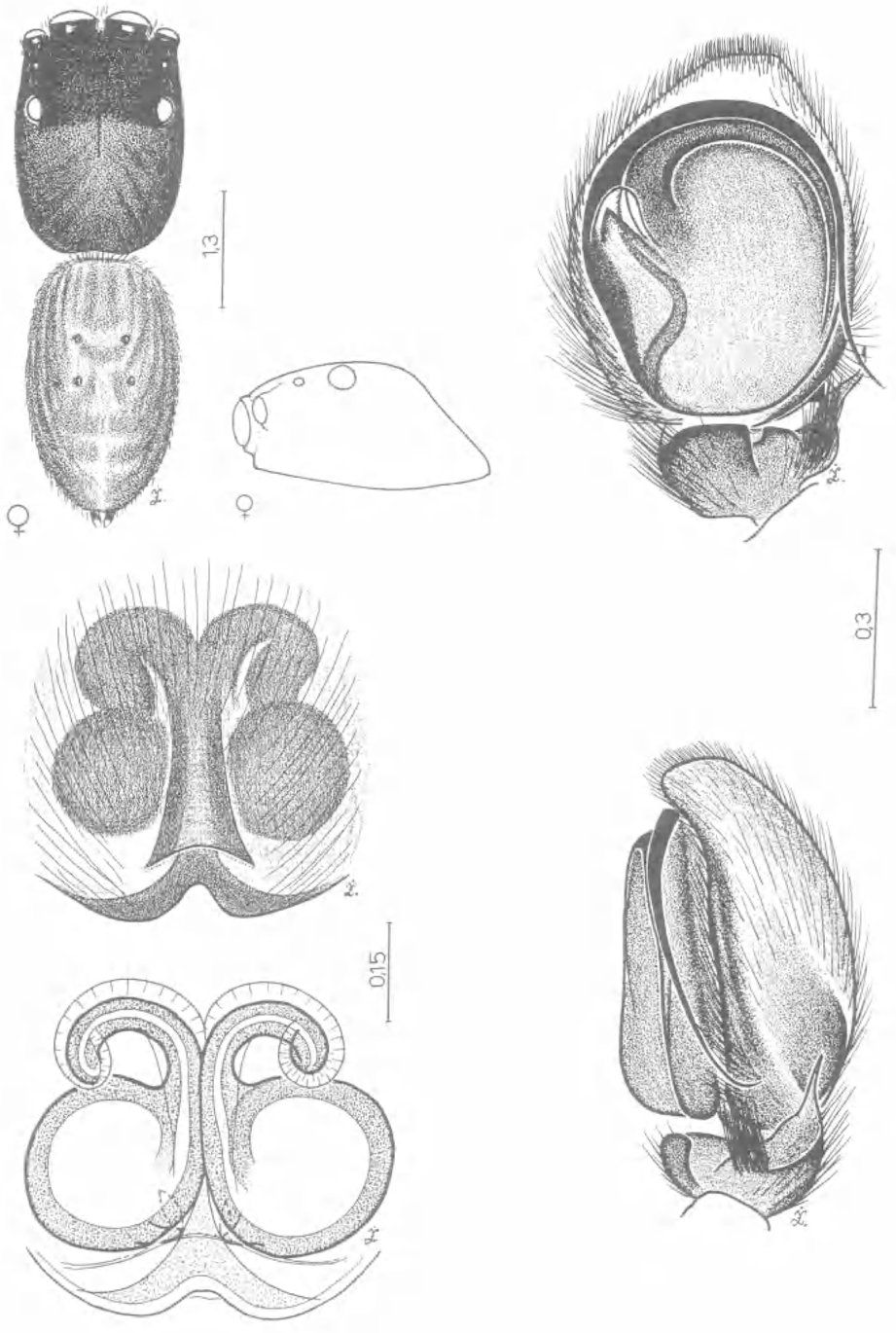
3. PORTIA FIMBRIATA (DOLESCHALL, 1859)



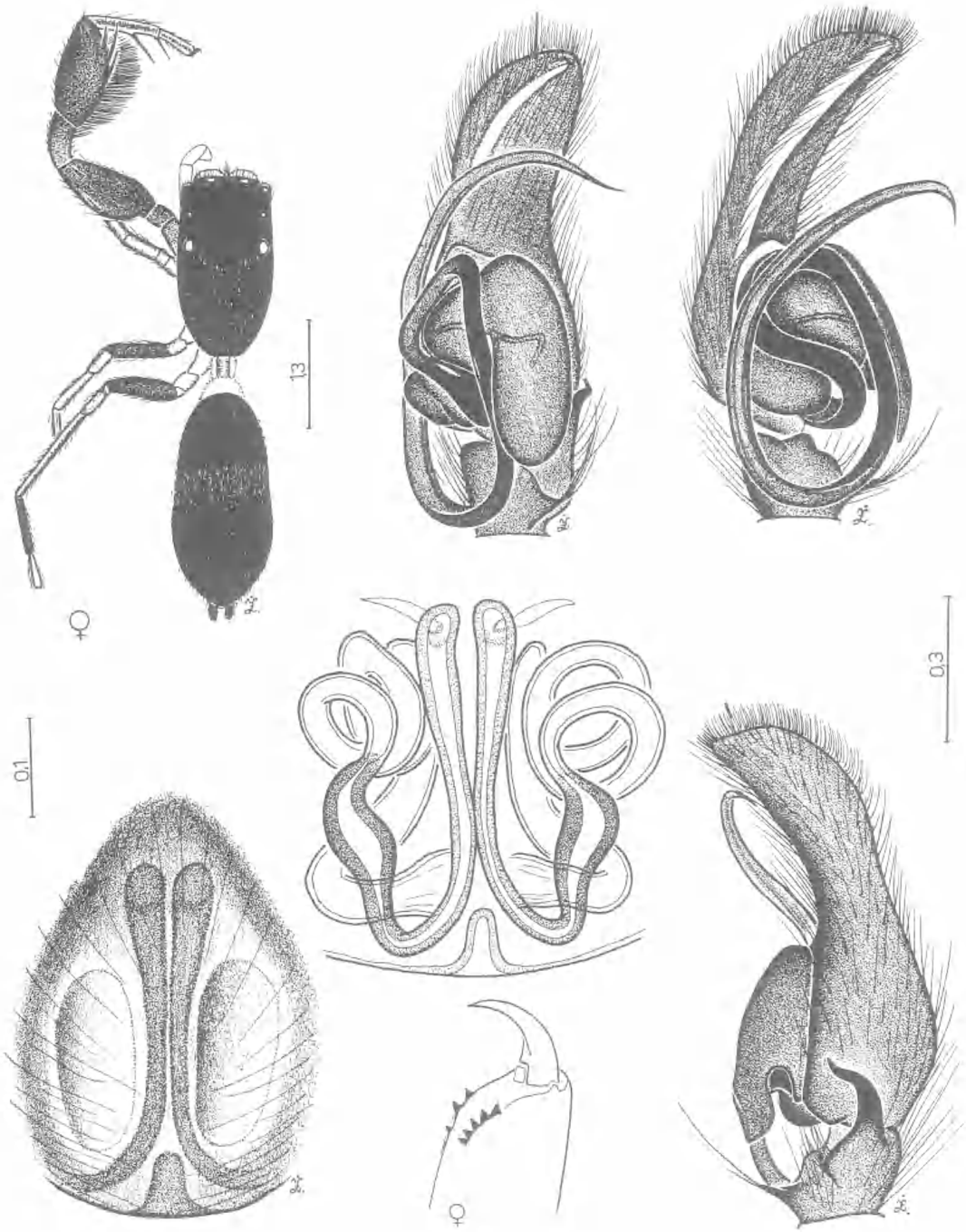
4. COCALUS GIBBOSUS WANLESS, 1981



5. MINTONIA SP. loc. Kuranda, northeast Queensland



6. CYRBA OCELLATA (KRONEBERG, 1875)



7. LIGONIPES SP. loc. Brisbane, southeast Queensland

7. Middle eyes about same distance from anterior and posterior rows; PLE not on edge of carapace, about same distance apart as ALE. Ratio of *pars cephalica:pars thoracica* is 1:1.1. ♀ insemination ducts coiled ..... (Pl. 7,8) *Ligonipes* (*Discocnemius* n.syn. *Haterius* n.syn.)
- Middle eyes closer to anterior than posterior row; PLE on edge of carapace, more widely separated than ALE. Ratio *pars cephalica:pars thoracica* is 1:0.5. ♀ insemination ducts simple ..... (Pl. 9) *Rhombonotus*
8. ♀ palp flat, paddle-shaped. ♂ chelicerae porrect, elongate. Marked drop in carapace height behind PLE. Leg IV longest ..... (Pl. 10) *Myrmarachne*
- ♀ palp leg-like. ♂ chelicerae geniculate, bowed. Without marked drop in carapace height behind PLE. Leg I longest ..... (Pl. 11) *Damoetas*
9. Small, flat spider; leg I much longer than leg II; tibia 1 enlarged ..... (Pl. 12) *Copocrossa* (♂ unknown)
- Small-large spiders. Leg I not much longer than leg II; tibia I not enlarged 10

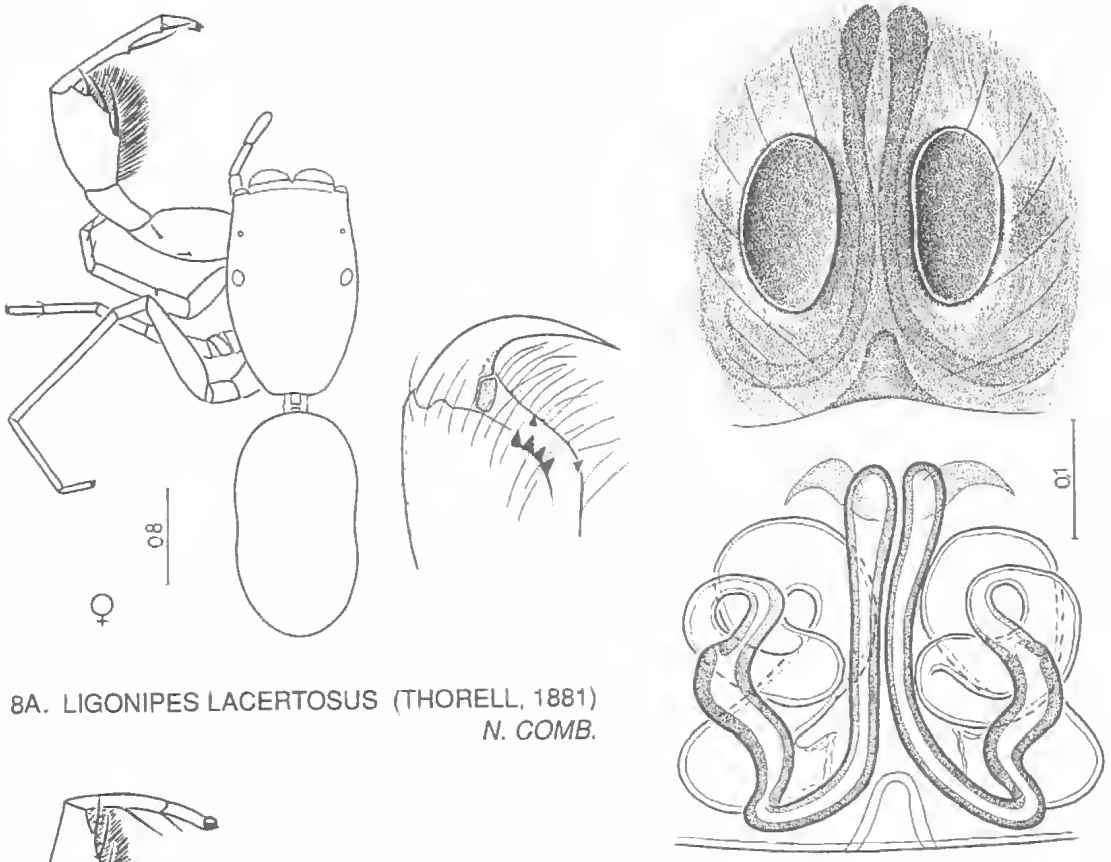
The 4 pluridentant-mimics *Ligonipes, Rhombonotus, Myrmarachne* and *Damoetas* form part of a natural group, the Myrmarachninae. The ♀ holotype of *L. illustris*, type species of *Ligonipes* is very fragile and has not been dissected. Prószyński (1984: 158) illustrates the habitus. The species drawn here is probably not *illustris, s.strict*; ♂ *Ligonipes* is illustrated for the first time. *Discocnemius* Thorell, 1881 and *Haterius,* Simon 1900 are newly synonymised with *Ligonipes* Karsch 1878, resulting in new combinations: *D. lacertosus* = *L. lacertosus* (Thorell, 1881) and *H. semitectus* = *L. semitectus* (Simon, 1900). The former is drawn from fresh material from the type locality, see also Prószyński (1984: 35); the latter is drawn from ♀ syntype. The reasons for the synonymies are the possession of fringed and swollen tibiae I, the length and position of the ventral spines on metatarsus I, the position of the PME and the similarity of the ♀ epigynal structures. *L. lacertosus* and *L. semitectus* may be conspecific.

Rhombonotus Koch, 1879 was synonymised with *Ligonipes* by Simon (1897-1903: 493). It is re-instated as a valid genus differing from *Ligonipes* in habitus, eye arrangement and in having simple uncoiled insemination ducts in the ♀.

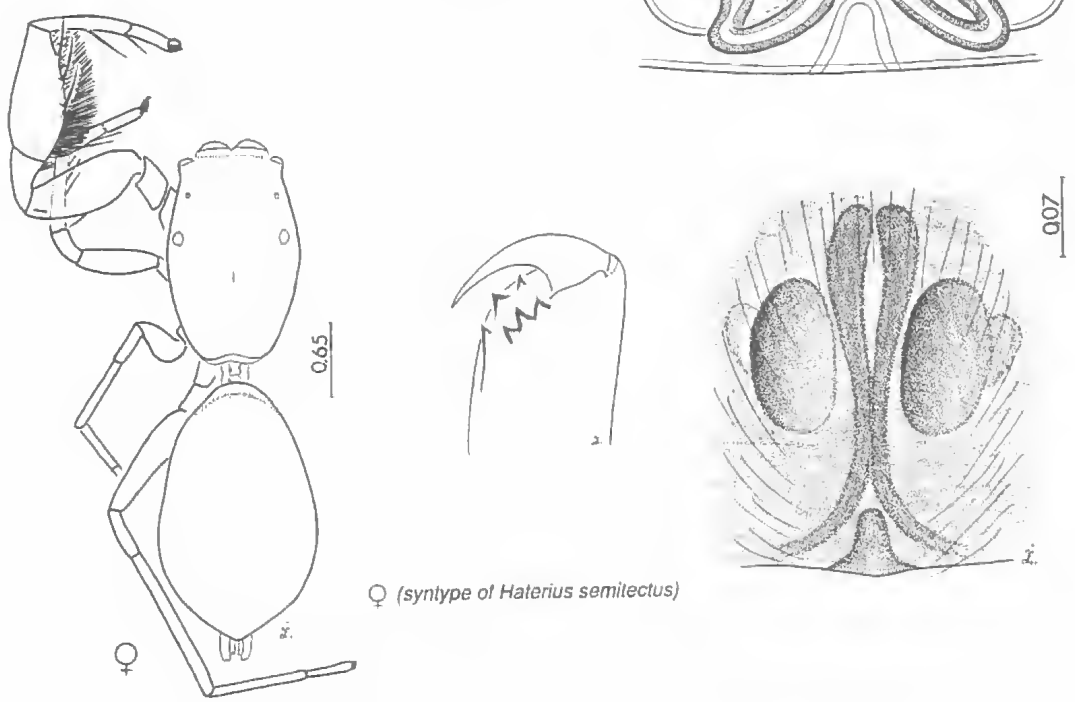
The ♂ *Myrmarachne* has strongly developed porrect chelicerae in contrast to the geniculate chelicerae of the ♀. The paddle-shaped ♀ palp is fringed with preening setae (Wanless, 1978a). Jackson (1982b, 1986a) discusses the biology of *M. lupata*, its display in courtship and mating, its prey and predatory behaviour.

The ♂ palp of *Damoetas nitidus* is drawn from the type (loc. Sydney). The other figures are from a ♂ collected in Brisbane which may not be *nitidus, s.strict*. The ♀ epigynum is from fresh material collected in Sydney.

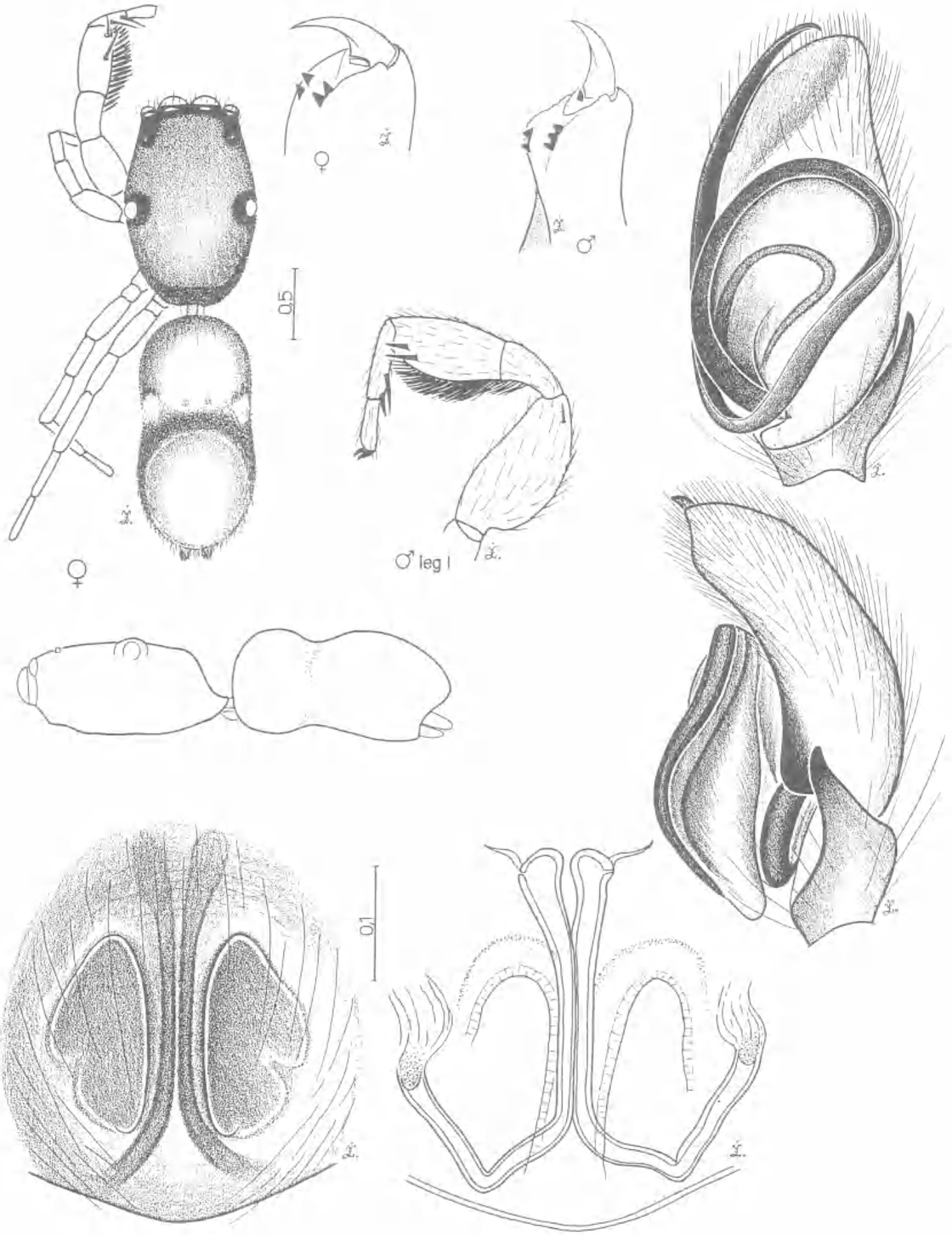
The ♀ *Copocrossa* illustrated was collected from a cane field at Mission Beach, northern Queensland; it is almost certainly *C. tenuiline*ata. The ♂ is unknown.



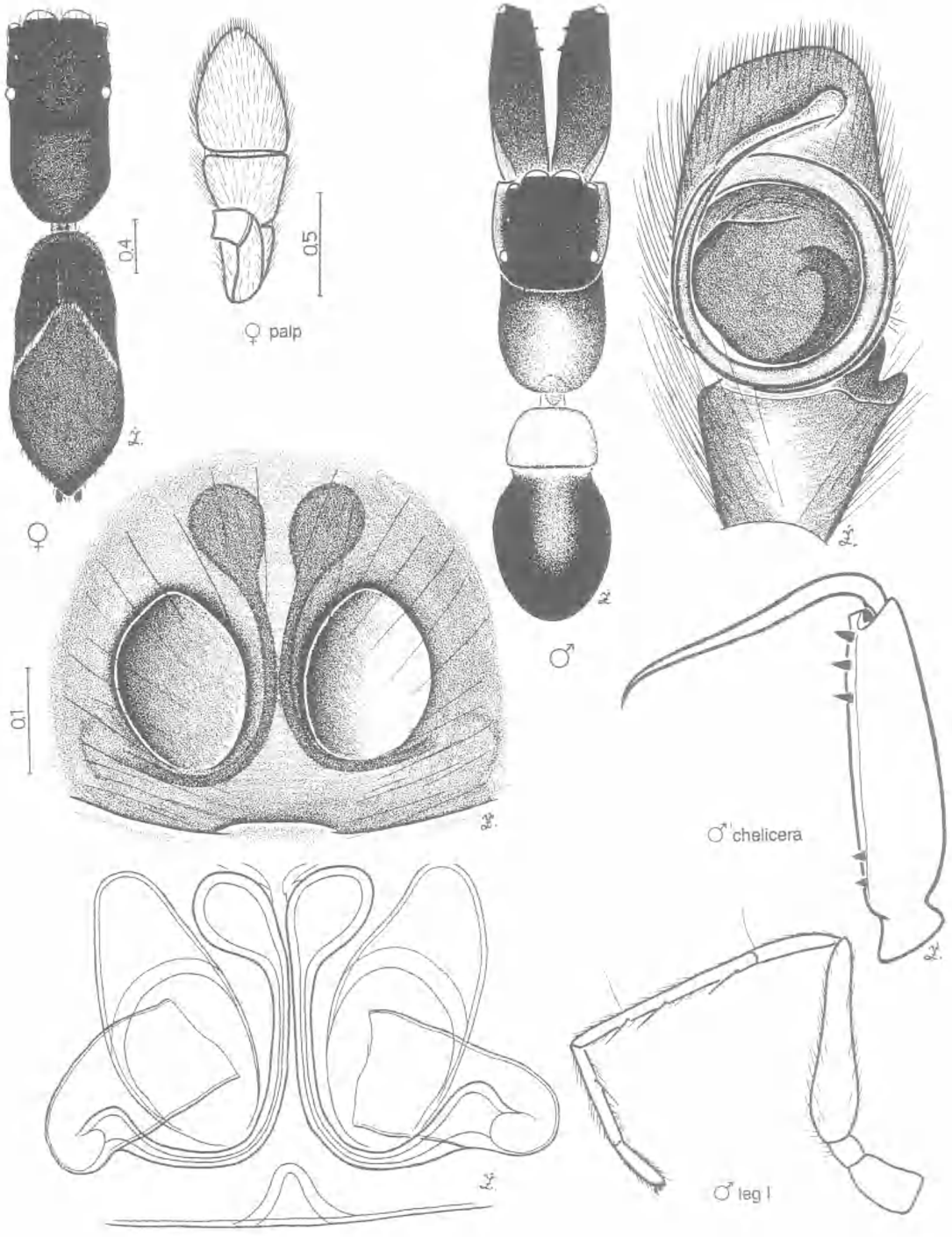
8A. LIGONIPES LACERTOSUS (THORELL, 1881) *N. COMB.*



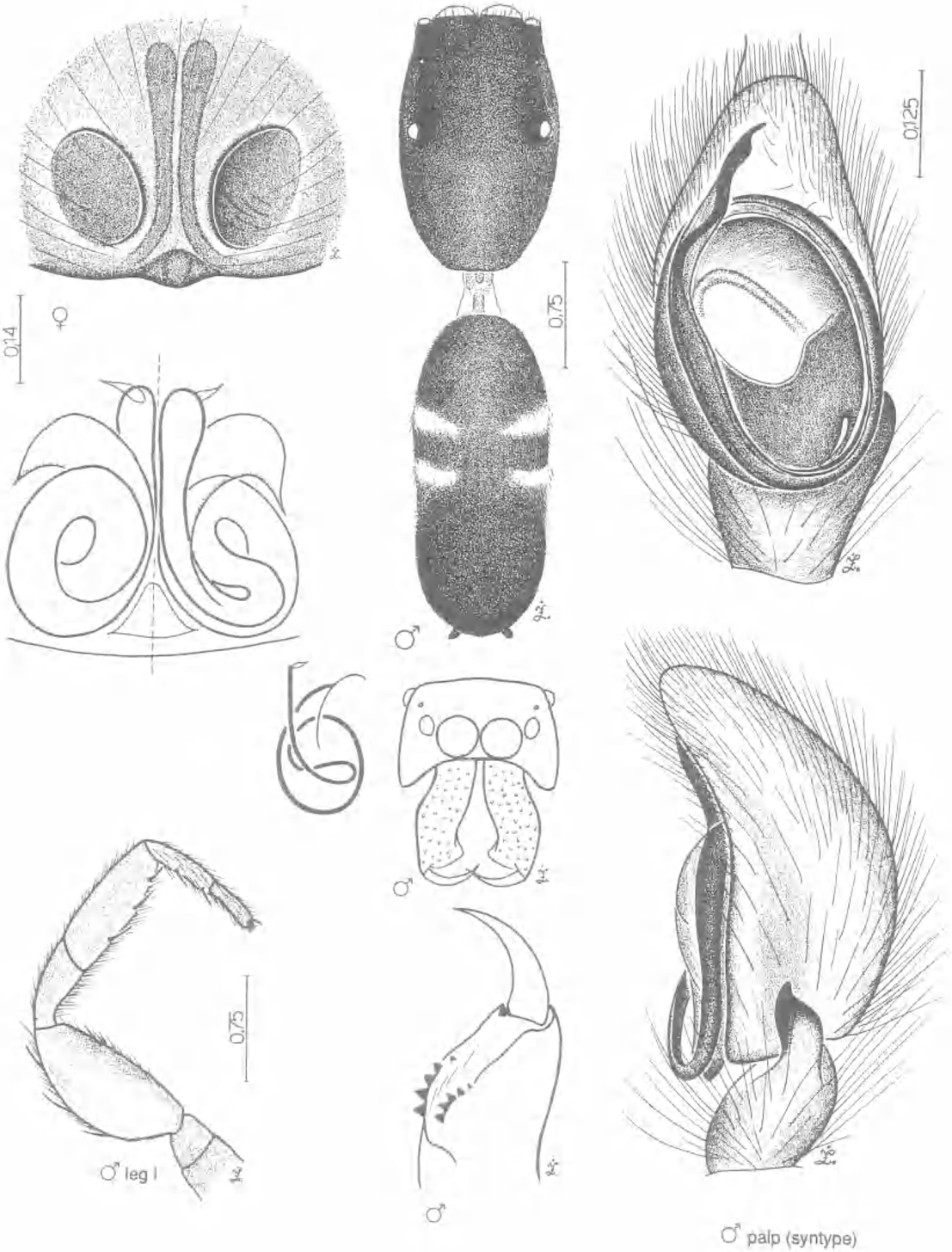
8B. LIGONIPES SEMITECTUS (SIMON, 1900) *N. COMB.*



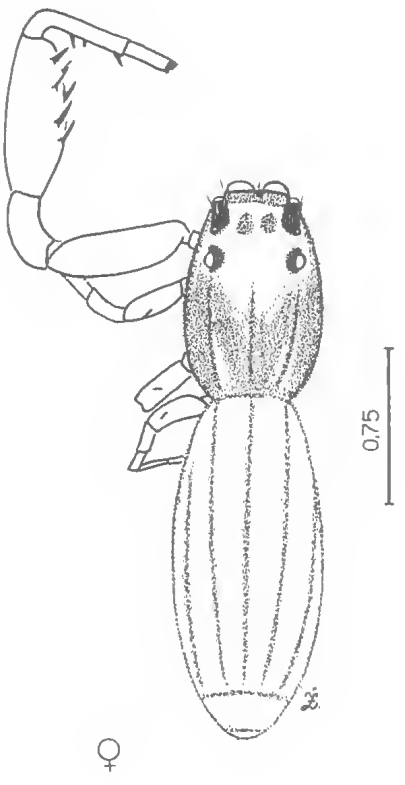
9. RHOMBONOTUS GRACILIS L. KOCH, 1879 *

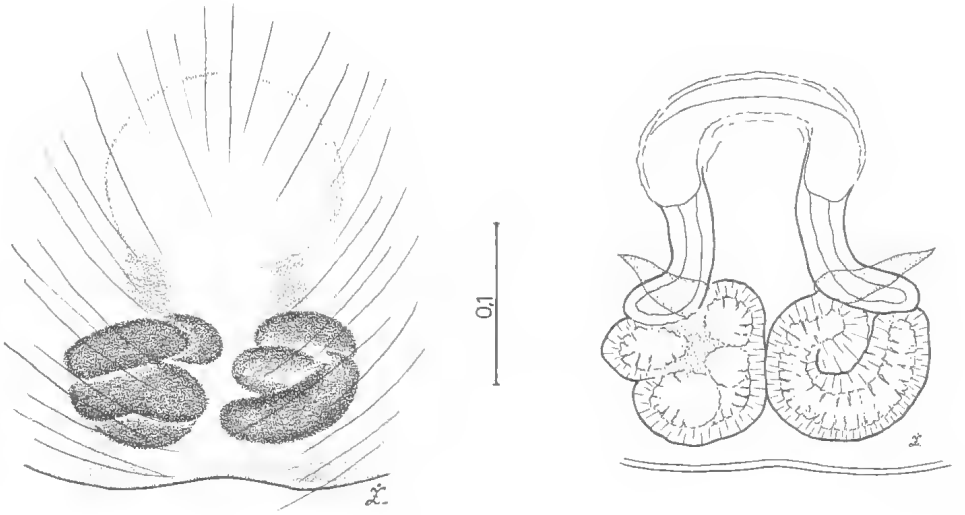


10. MYRMARACHNE SPP. loc. ♀ Brisbane, ♂Goomeri, southeast Queensland



11. DAMOETAS NITIDUS (L. KOCH, 1880) *





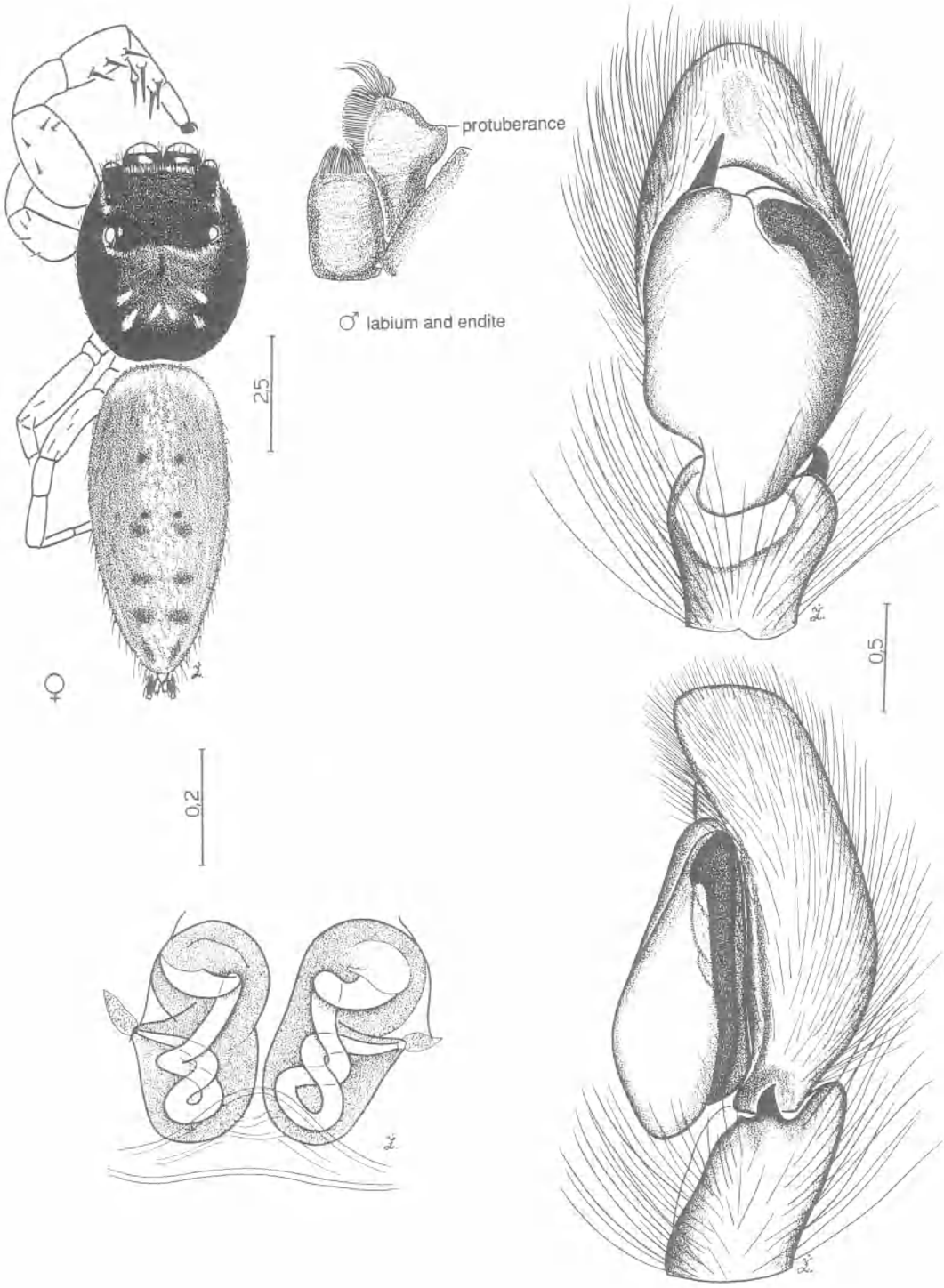
12. COPOCROSSA TENUILINEATA (SIMON, 1900) *

10. Large (10mm+) spiders. Labium about twice as long as wide. Retrolateral protuberance on ♂ endite .....(Pl. 13) *Bavia* (northern Australia)
- Small and medium-sized spiders. Labium not much longer than wide. Without retrolateral protuberance on ♂ endite 11
11. Abdomen with conspicuous light dorsal patch of setae just anterior to anal tubercle ....(Pl. 14) *Astia*
- Abdomen without conspicuous light dorsal patch of setae anterior to anal tubercle 12
12. Anterior surface of tracheal slit with patch of dark hairs; ♂ palp with minute embolus ....(Pl. 15) *Tauala*
- Anterior surface of tracheal slit without patch of dark hairs; ♂ palp with small to elongate embolus 13
13. Carapace widest posteriorly, eye region small relative to carapace. Five pairs of ventral spines on tibia I .....(Pl. 16) *Arasia*
- Carapace not widest posteriorly; eye region relatively large. Rarely more than 3 pairs of ventral spines on tibia I, never 5 pairs 14
14. Carapace with marked depression in foveal region emphasising prominence of PLE ....(Pl. 17) *Jacksonoides*
- Carapace without marked depression in foveal region 15

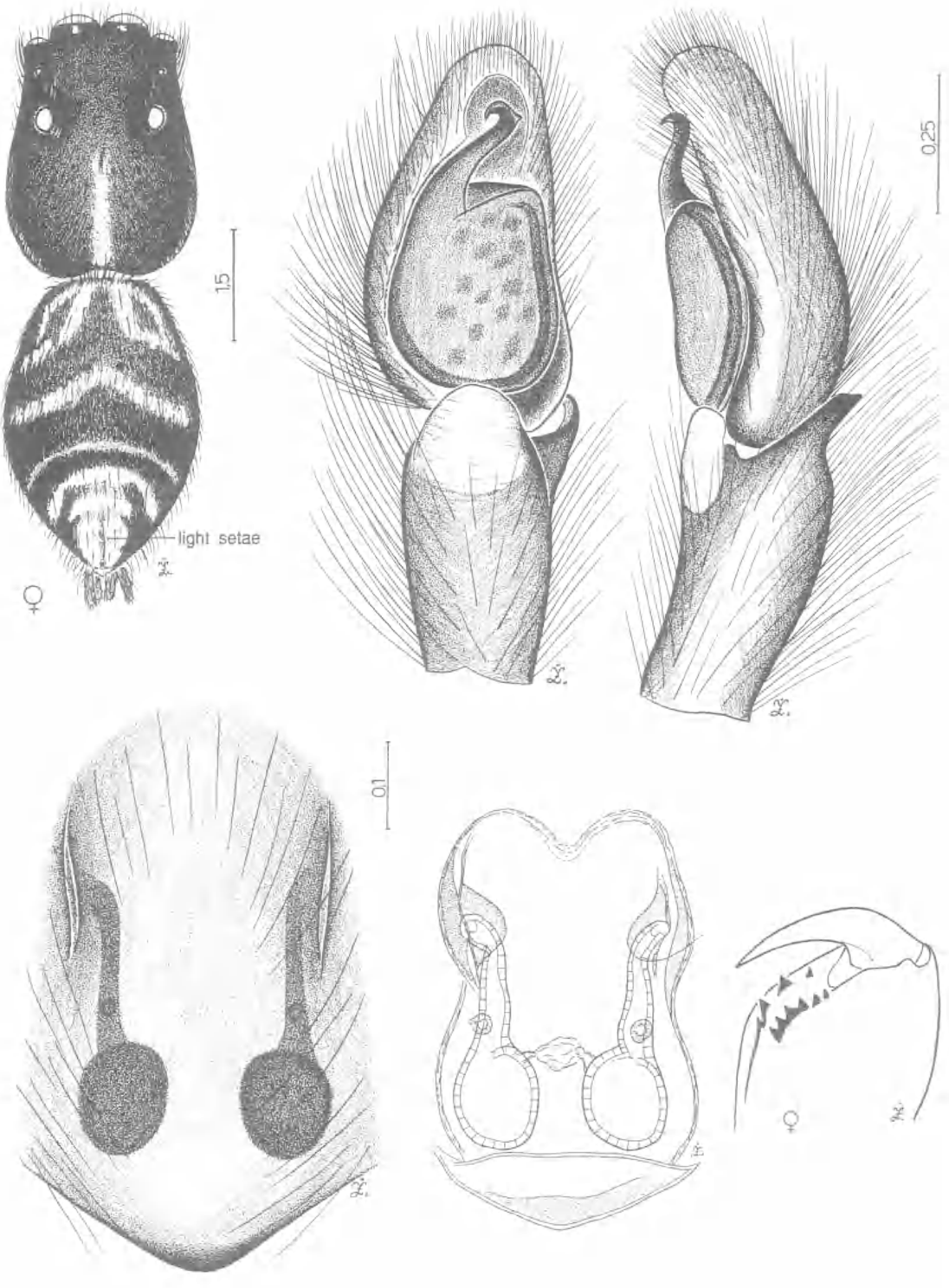
15. Elongate spiders (especially ♂) with conspicuous transverse ocular fringe in ♂. ♂ tegulum with slight lobe posteriorly. ♀ epigynum with strong lateral margins and relatively large triangular pouch (sometimes difficult to see) .....(Pl. 18) *Helpis*
- Habitus not elongate, without ocular fringe in ♂. ♂ tegulum without lobe, usually broad lamella near base of embolus. ♀ epigynum without strong lateral margins, without pouch; caudal lobe present .....(Pl. 19) *Sondra*

Simon (1897–1903: 470) recognised that the type species of *Acompse* Koch, 1879, *A. suavis*, was a junior synonym of *Bavia aericeps* Simon, 1877. *B. aericeps* is found on palms and other trees in tropical Australia. It appears to be un-related to other pluridentid spiders and to have its closest relatives among the large unident salticids, *Mopsus* and *Sandalodes*. Jackson (1986b) gives details of the display behaviour of the ♂ which varies depending on the maturity and location of ♀♀.

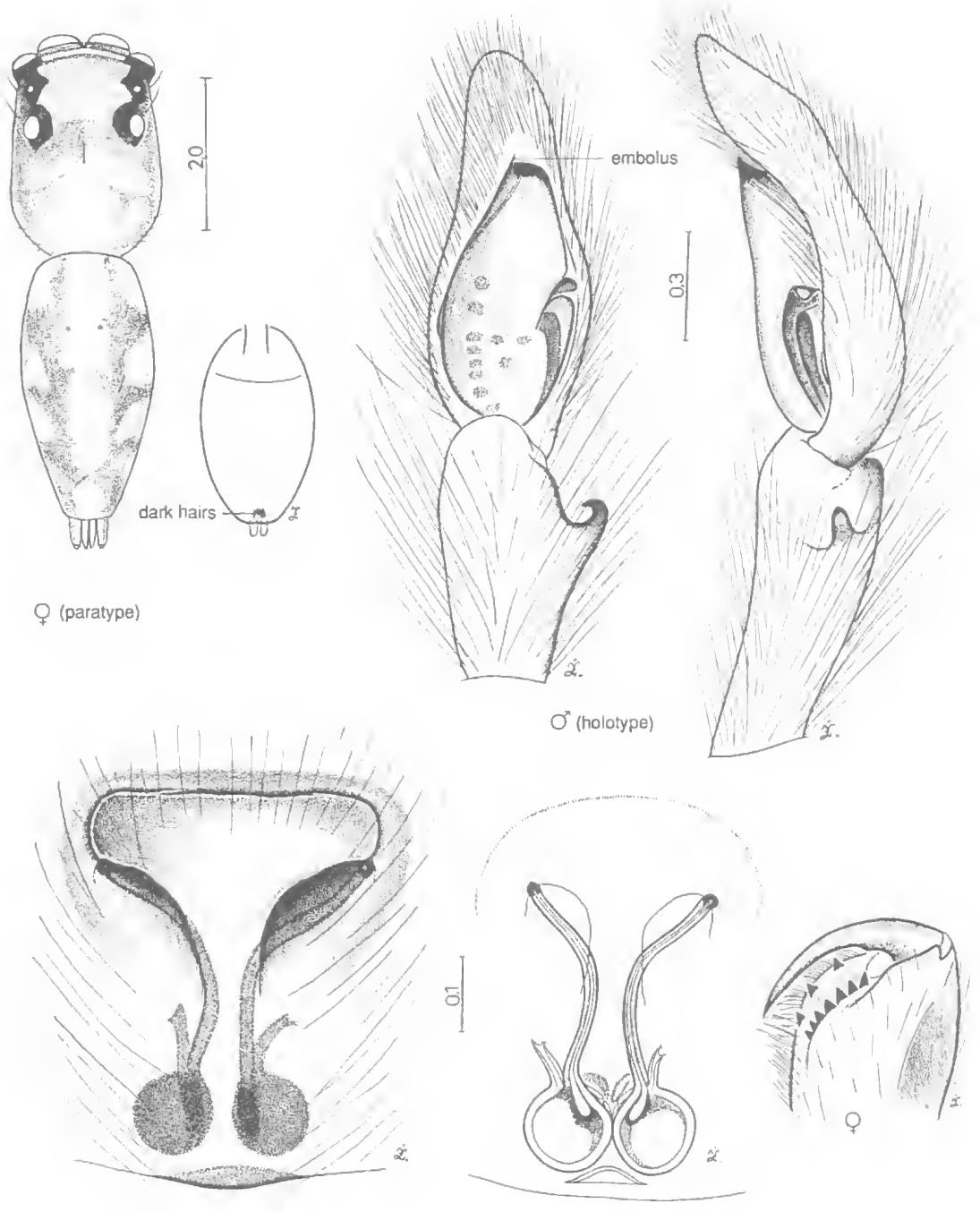
The next 6 genera, forming the Astieae, have been revised recently by Wanless (1988) and this part of the key is a simplified version of his. This is the only revision of a group of Australian salticids to be undertaken since the original description of *Astia* Koch, 1879 and Simon's (1897–1903: 438) subsequent transfer of 2 species as types of the genera, *Helpis* and *Arasia*. Mascord (1970, Pl. 10, fig. 36) shows ♀ *Astia hariola*. *Jacksonoides kochi* (Simon 1900), originally described as *Lagnus kochi*, is found on tree trunks in northern Queensland and is figured here; *J. queenslandicus* is the type species. *Astia*, *Arasia* and *Helpis* are found in open sclerophyll forests whereas *Jacksonoides*, *Tauala* and *Sondra* are from rainforest areas, the last from leaf litter. We believe that *Arasia aurea* does not belong in *Arasia* and probably represents a new genus. Jackson (1988a) reports that *J. queenslandicus* invades the webs of other spiders and has a large and complex repertoire of displays used in intra-specific interactions. Regrettably, his paper on the behaviour of *J. queenslandicus* was given page precedence in the same journal as Wanless' paper (1988) describing *Jacksonoides*. It is recognised as a *nomen nudum* in the former which is corrected in the latter. Jackson (1988b) gives an account of the behaviour of *Tauala lepidus* which spins its nest on the underside of leaves. Like *Portia*, *Cyrba* and *Jacksonoides* it is araneophagic, kleptoparasitic and oophagic, i.e. it may enter other spiders webs to catch spiders, it may take insects from the webs, and as well eat the eggs of other spiders. *Sondra* is a large genus divided by Wanless into 4 species groups.



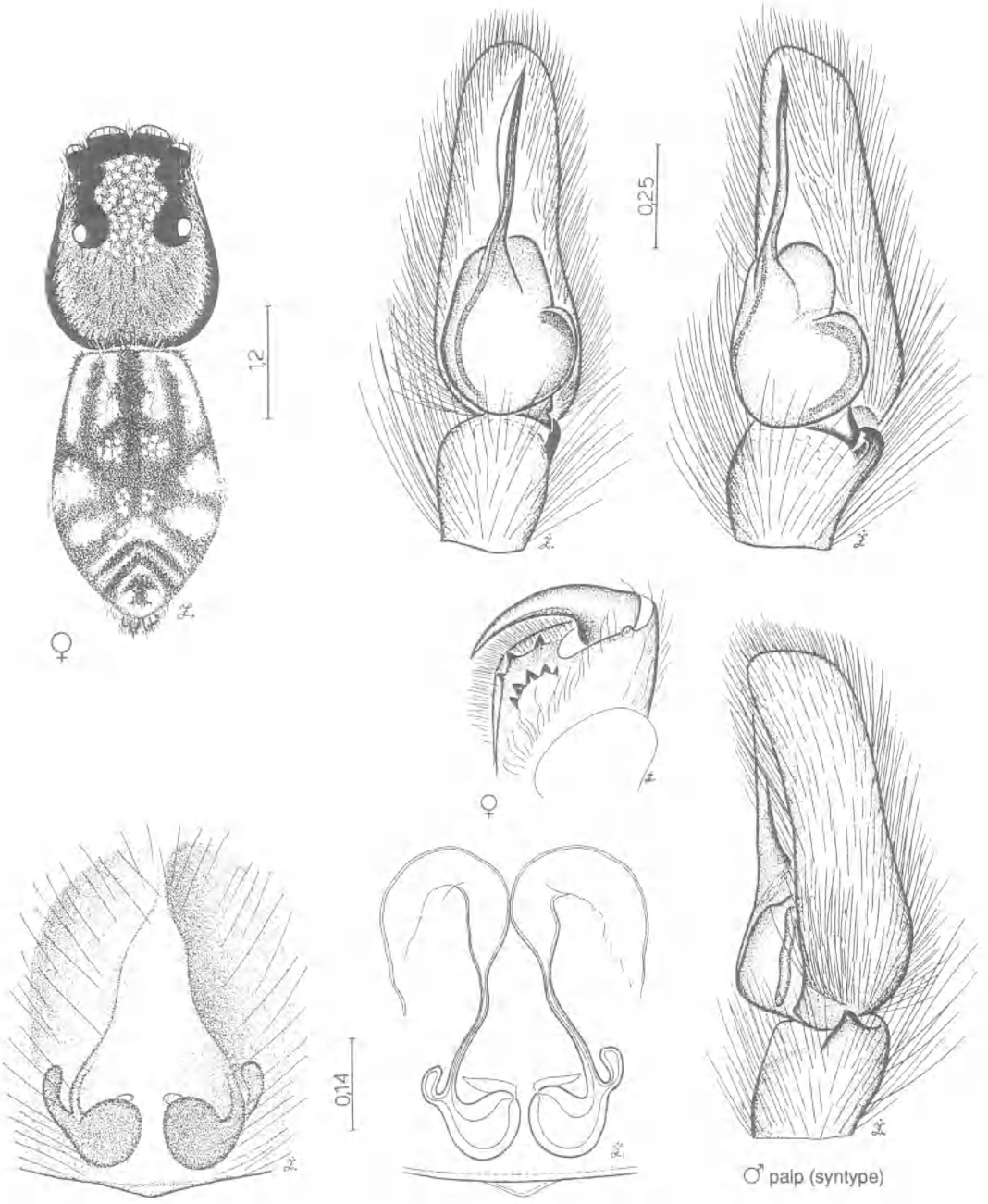
13. BAVIA AERICEPS SIMON, 1877 *



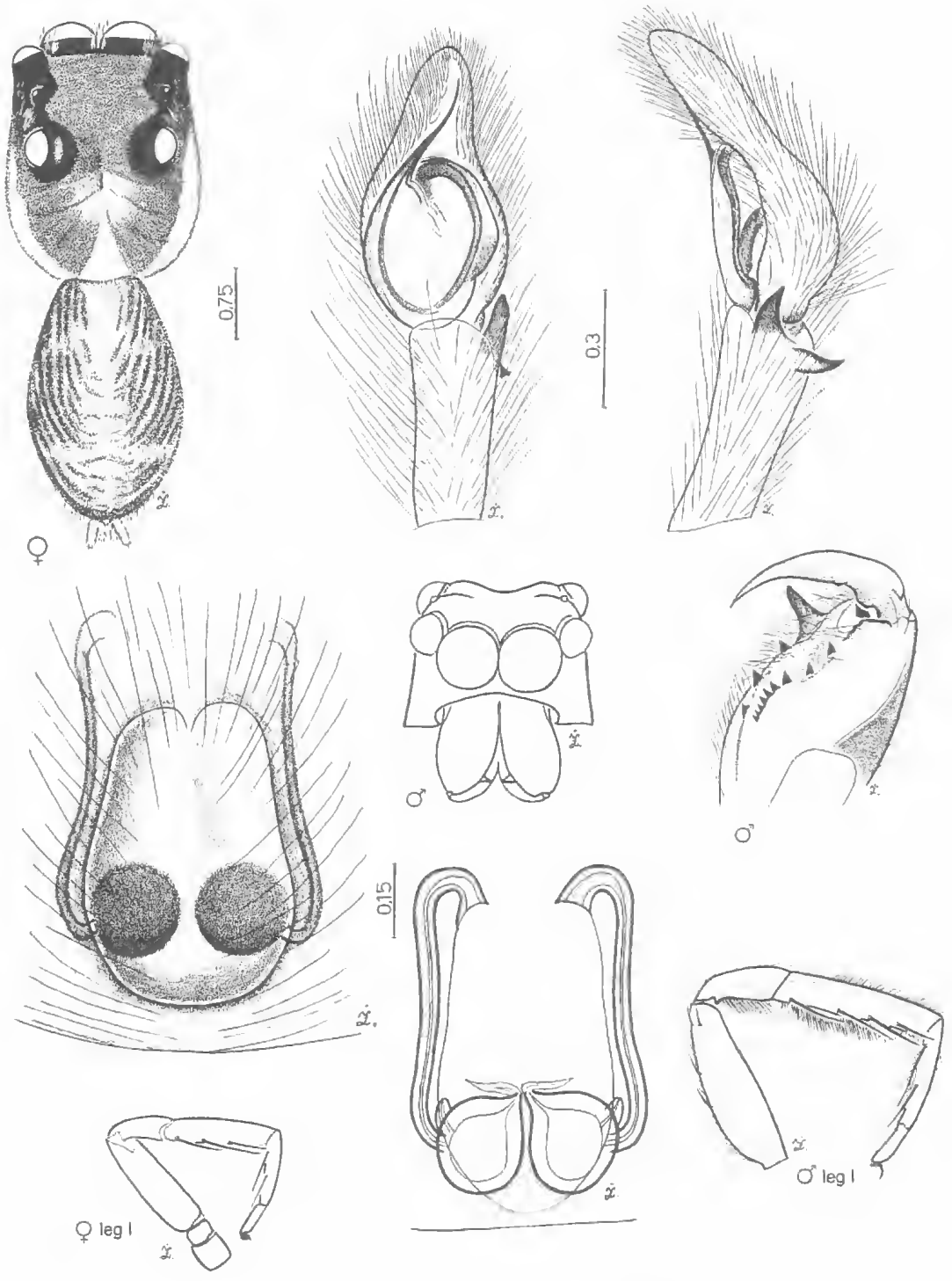
14. ASTIA HARIOLA L. KOCH, 1879 *



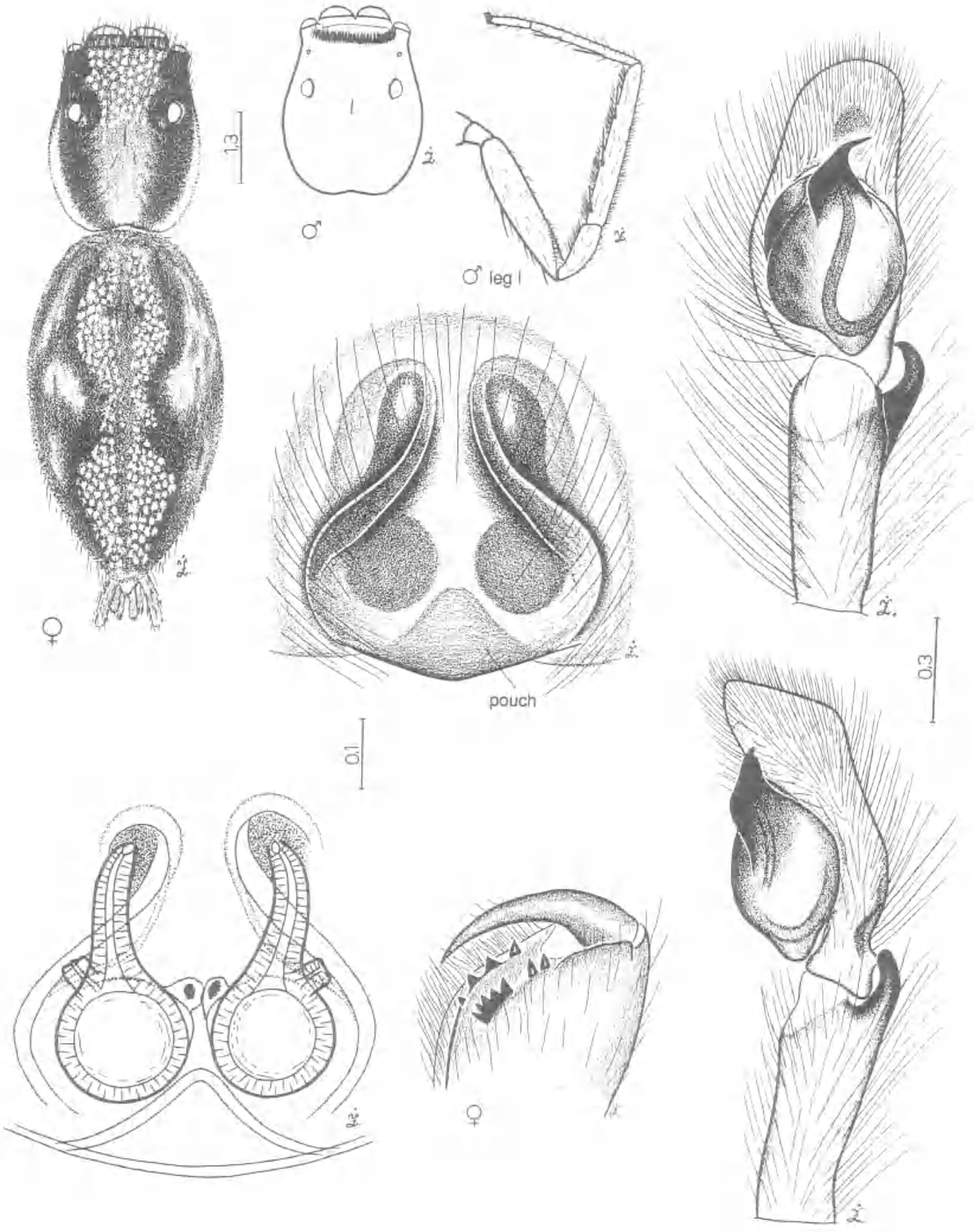
15. TAUALA LEPIDUS WANLESS, 1988 *



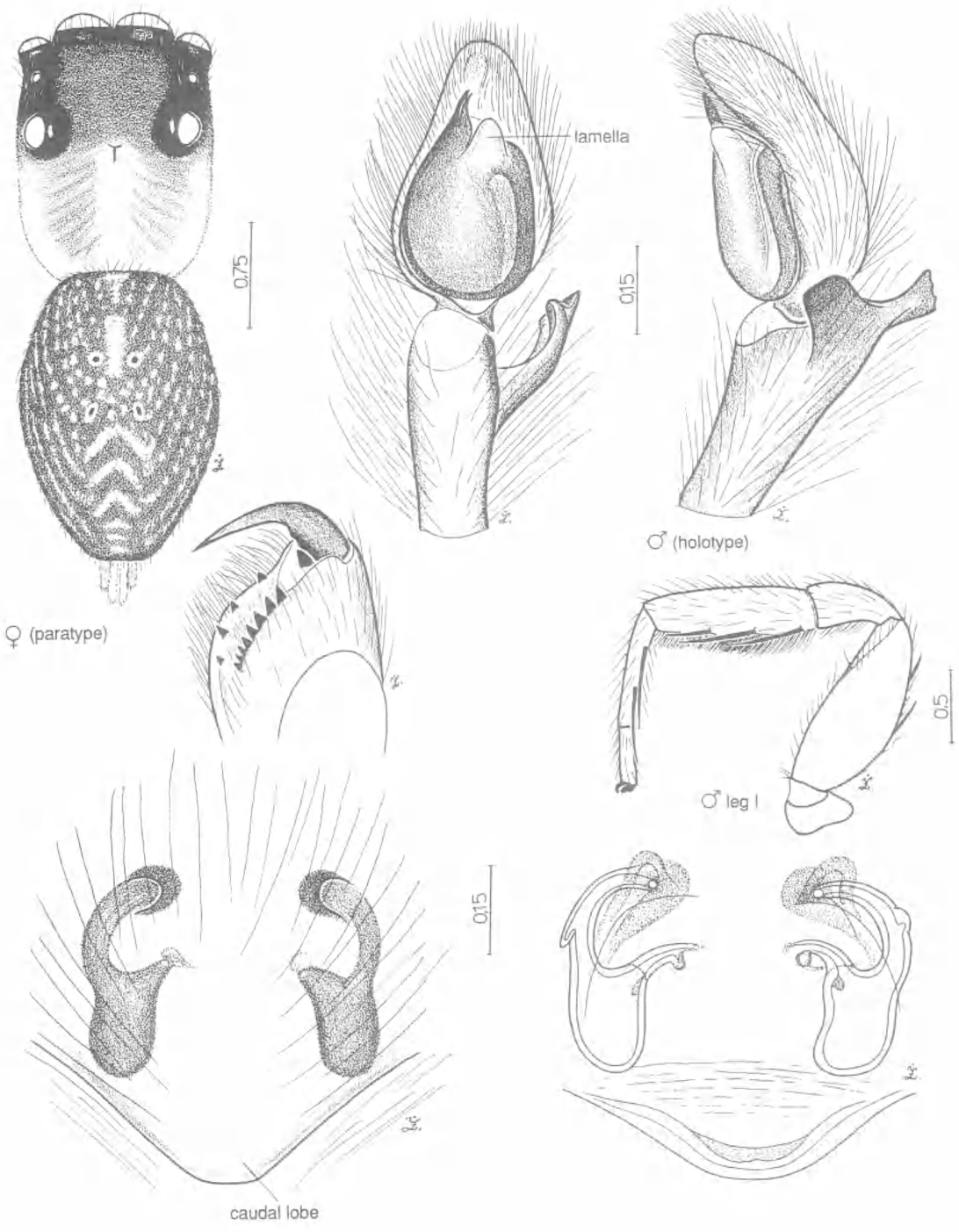
16. ARASIA MOLLICOMA (L. KOCH, 1880) *



17. JACKSONOIDES KOCHI (SIMON, 1900)



18. HELPIS MINITABUNDA (L. KOCH, 1880) *



19. SONDRA NEPENTHICOLA WANLESS, 1988 *

FISSIDENTATI — KEY TO GENERA

1. Coxa I almost twice or more as long as coxa II 2
– Coxa I slightly longer than coxa II 4
2. Carapace high and uneven; PLE on pronounced tubercles. ♂ and ♀ tibia I swollen with heavy fringing 3
– Carapace flat; PLE not on pronounced tubercles. ♂ tibia I not swollen, slight fringing ..... (Pl. 20) *Tara* (♀ unknown)
3. Carapace wider than PLE ..... (Pl. 21) *Diolenius* (northern Australia)
– Carapace narrower than PLE ..... (Pl. 22) *Harmochirus* (northern Australia)
4. Small median prominence in posterior ocular quadrangle ..... (Pl. 23) *Opisthoncus*
– Without median prominence in posterior ocular quadrangle 5
5. Ocular quadrangle clearly much wider behind than in front 6
– Ocular quadrangle equal or narrower behind 8
6. Trifurcate tooth on cheliceral retromargin of ♂. Short, thick embolus curved in anti-clockwise direction (left palp) ..... Pl. 24 *Ergane* (♀ unknown)
– Bifurcate tooth on cheliceral retromargin of ♀, ♂. Long spiniform embolus if anti-clockwise, or embolus clockwise 7

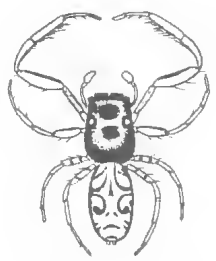
The dorsal view of *Tara anomala* is copied from the illustration in Koch and Keyserling (1871—1883). There are some undescribed ♀♀♂♂ of a small, flat spider, usually shaken from foliage, which have a similar ♂ palp to that of *Tara anomala* but do not have such elongate coxa and trochanter I. Until ♀ *T. anomala* is known these cannot be assigned with certainty to *Tara* and have not been figured.

Diolenius, a fly-mimic is found on the leaves of palms, ginger and other plants in north Queensland. The spider moves backwards, its elongate front legs resembling the wings of a fly.

Harmochirus is recorded from Australia for the first time. It appears to be closely related to the unident genus *Bianor*. They have similar body shapes, ♂ palpal and ♀ epigynal structure. *Bianor* lacks swelling and heavy fringing on tibia I.

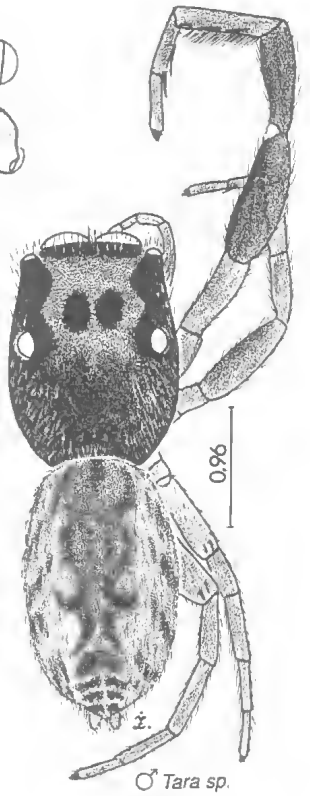
Opisthoncus is widespread in Australia with more than twenty described species. A few species have separate teeth (pluridentate) on the cheliceral retromargin rather than one divided tooth. The ♂ chelicera often has ventral and dorsal as well as marginal teeth.

Ergane cognata is known only from the ♂ holotype from Pellew Is in the Gulf of Carpentaria, Northern Territory. The dorsal view is copied from the illustration in Koch and Keyserling (*loc. cit.*).

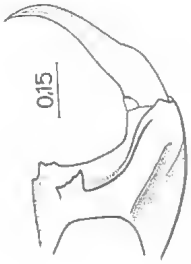


♂ (holotype)

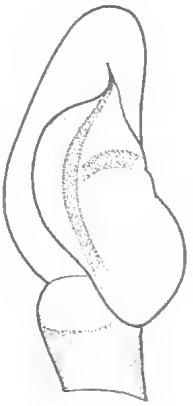
♂ *Tara sp.*

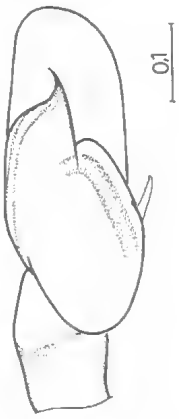


♂ *Tara sp.*

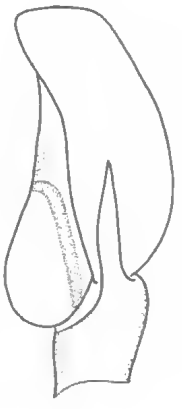


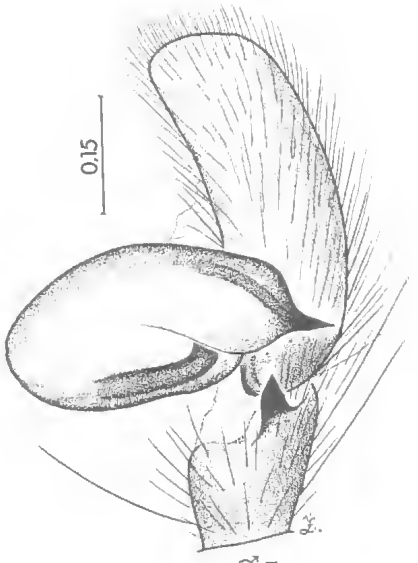
♂ (holotype)





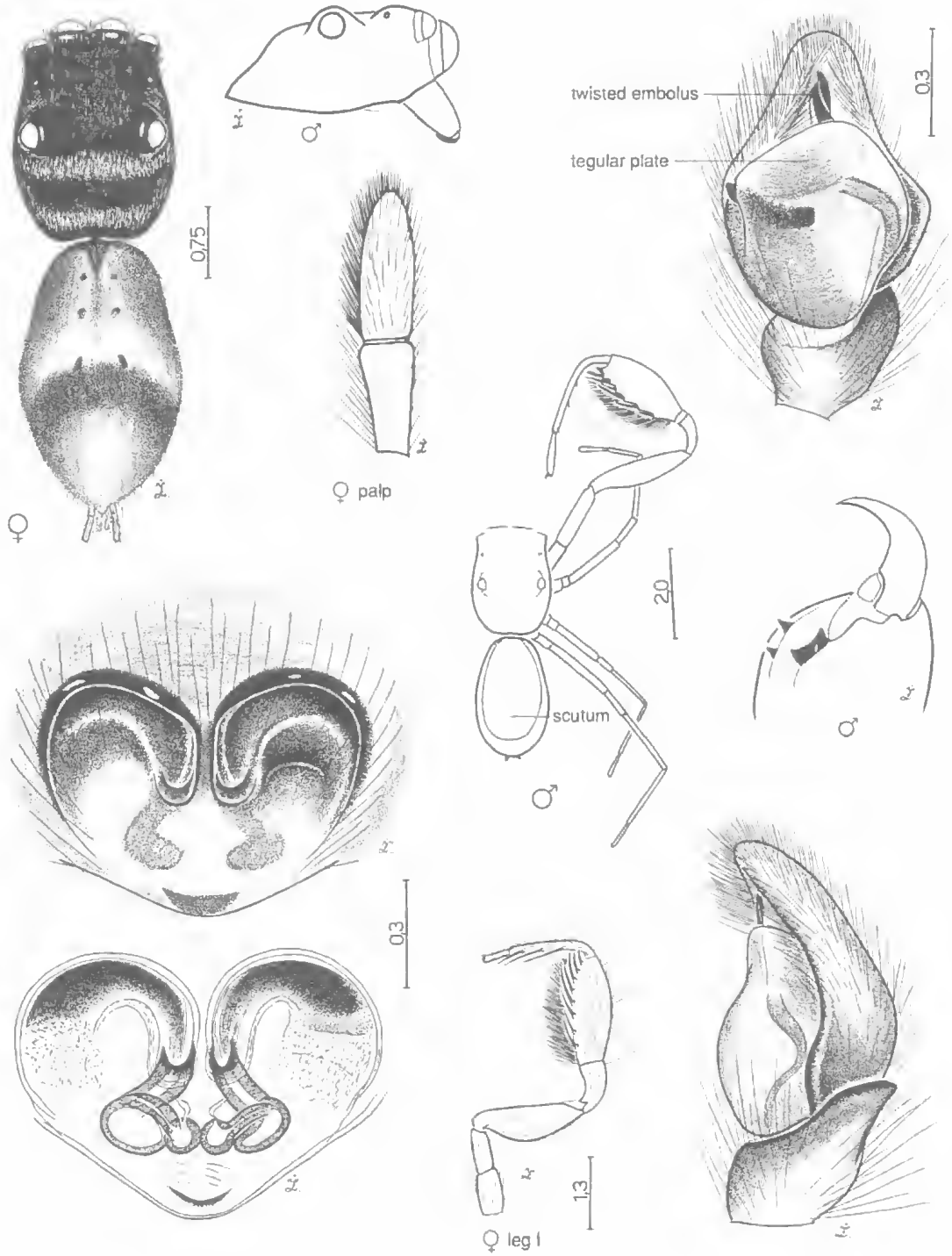
♂ (holotype)



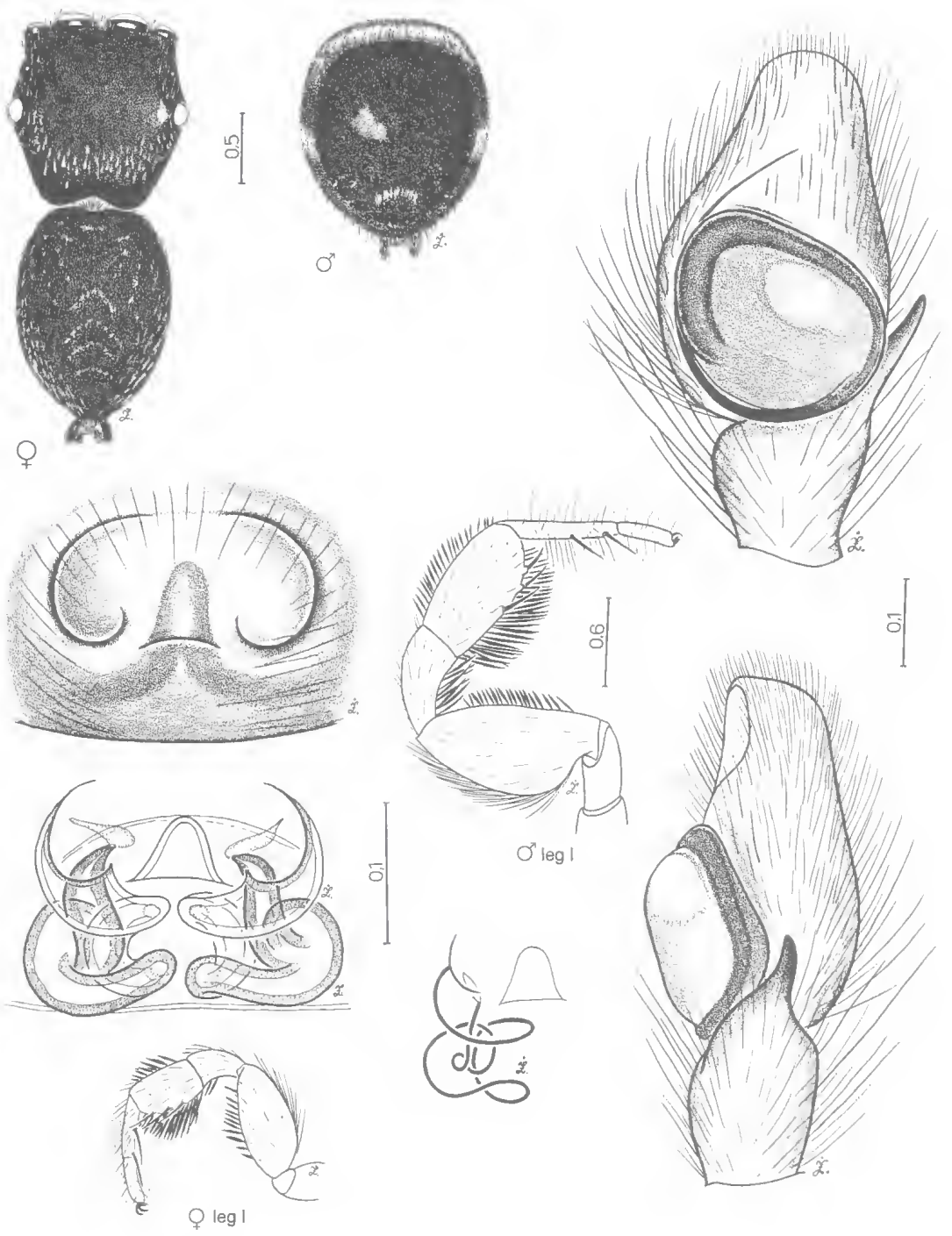


♂ *Tara sp.*

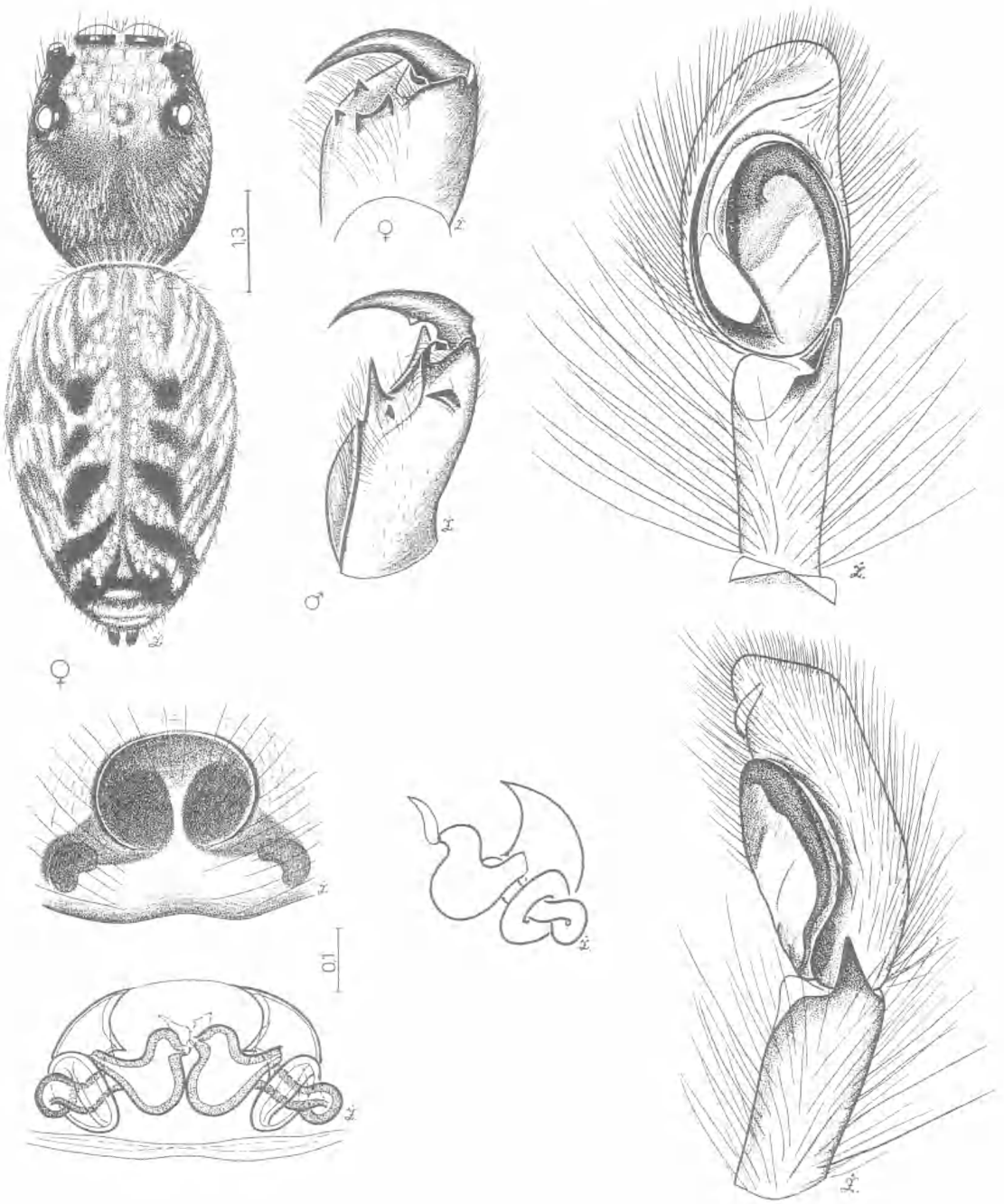
20. TARA ANOMALA (KEYSERLING, 1882) *



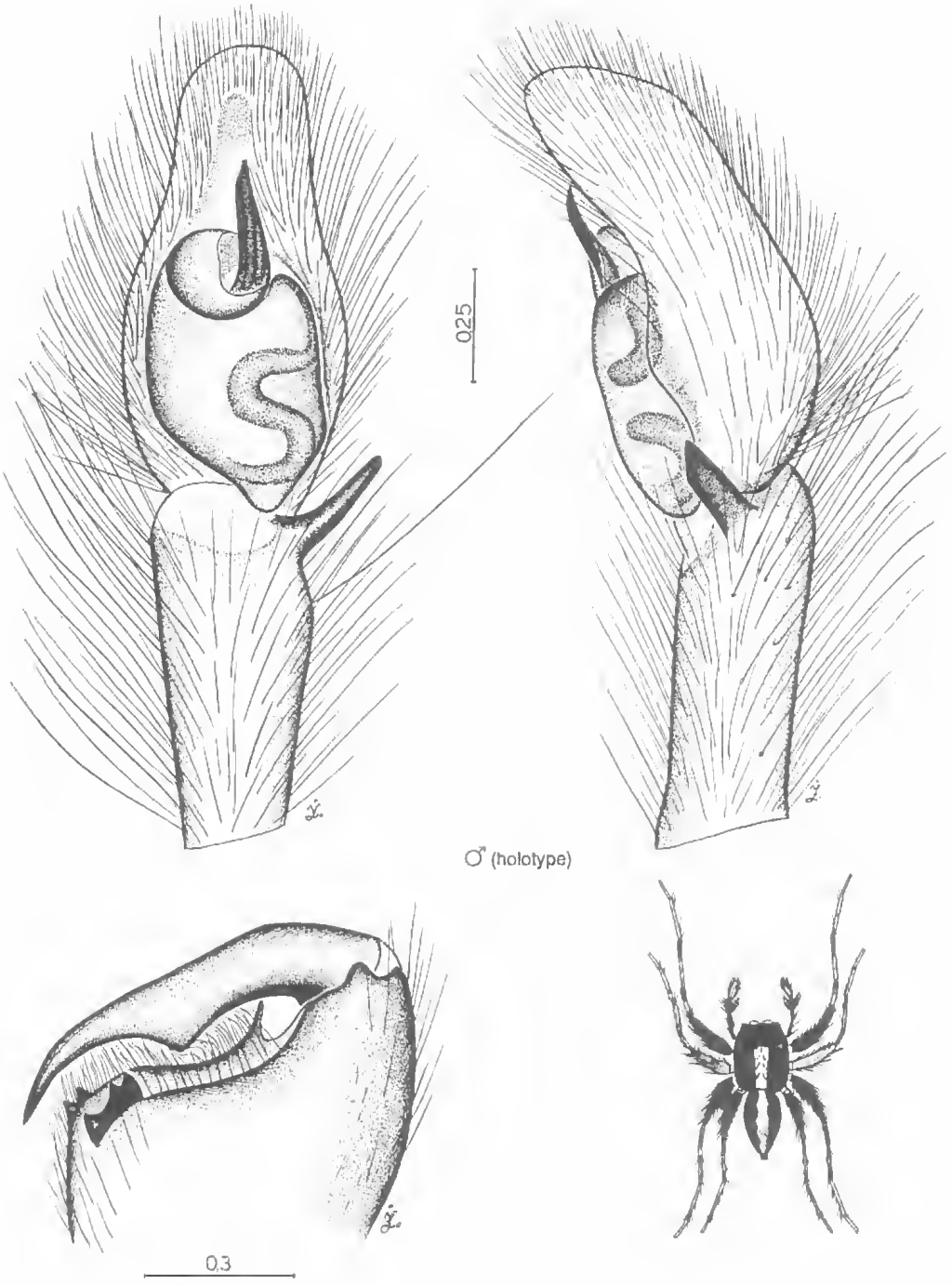
21. DIOLENIUS SP. loc. Cape York Peninsula, north Queensland



22. HARMOCHIRUS BRACHIATUS (THORELL, 1877) *



23. OPISTHONCUS PARCEDENTATUS L. KOCH, 1880



24. ERGANE COGNATA L. KOCH, 1881 *

7. PLE about middle of carapace. PME not much further from PLE than from ALE. ♀, ♂ sternum with conical prominence .....(Pl. 25) *Simaetha*
- PLE behind middle of carapace. PME much further from PLE than from ALE. Sternum without prominence .....(Pl. 26) *Simaethula*
8. Five pairs of ventral spines on ♀ tibia I .....(Pl. 27) *Adoxotoma* (♂ unknown)
- Rarely more than 3 pairs of ventral spines on ♀ tibia I, never 5 pairs 9
9. Embolus short, uncoiled. Epigynum small and indistinct .....(Pl. 28) *Hasarius* (introduced)
- Embolus coiled in anti-clockwise direction (in left palp). Epigynum clearly defined 10
10. ♂ chelicera long, porrect. ♀ epigynal fossa without clear median guide ..... (Pl. 29) *Canama* (northern Australia)
- ♂ chelicerae, geniculate. ♀ epigynum with paired fossae, clear median guide 11
11. Frontal surface of chelicera rounded. ♀ insemination ducts clearly evident through the integument, posterior to fossae. ♂ embolus 2-coiled; tegulum almost as wide as long ..... (Pl. 30) *Cytaea*
- Frontal surface of chelicera rounded or flat. ♀ insemination ducts hardly if at all evident, level with fossae. ♂ embolus with single coil; tegulum clearly longer than wide 12
12. Frontal surface of chelicera rounded. ♂ chelicera bowed prolaterally with transverse ridges. ♂ tegulum with lobe posteriorly; embolus pointed. ♂ endite with retrolateral protuberance ..... (Pl. 31) *Servaea*
- Chelicerae flat-fronted, smooth. ♂ chelicerae straight-edged without ridges. ♂ tegulum without lobe posteriorly; embolus bifurcate at tip. ♂ endite without retrolateral protuberance ..... (Pl. 32) *Euryattus*

Simaetha spp. are medium-sized spiders that are commonly found in small webs under the bark of eucalypts. Jackson (1985c) discusses their web-building, predatory and intraspecific behaviours.

Simaethula is a small spider closely related to *Simaetha*.

Hasarius adansoni, an introduced spider, is often the first spider to colonise new buildings in Brisbane.

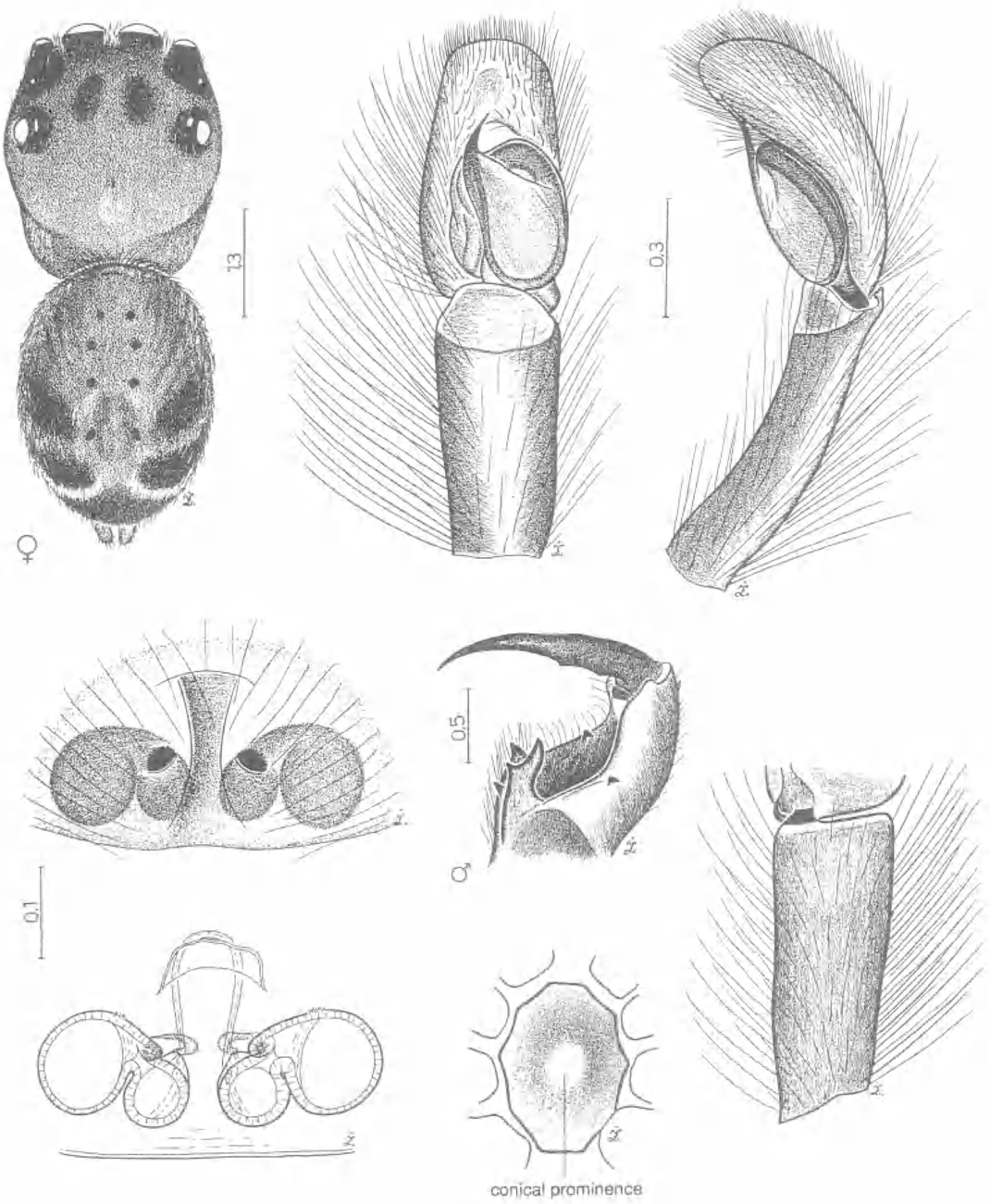
Adoxotoma, usually regarded as a pluridentate spider because the carapace resembles that of the Astieae, is placed here because of its fissident retromarginal dentition. The ♀ is unusual having strong spination (without swelling) on tibia I. The ♂ is not known. Apart from the drawings of the epigynum and leg I, the illustrations are copied from Wanless (1988) who, in his revision of the Astieae, did not assign *Adoxotoma* to a sub-family.

The ♀ *Canama hinnuleus* is illustrated for the first time. Prószyński (1984) transferred *C. hinnuleus* to *Bathippus* and later (1987 *in* index) synonymised *C. forceps*, the type species with *Bathippus cervus*. We believe that *Canama* is a valid genus that differs in cheliceral and epigynal structure from *Bathippus* (see *B. sedatus* and *B. shelfordi* in Żabka, 1988).

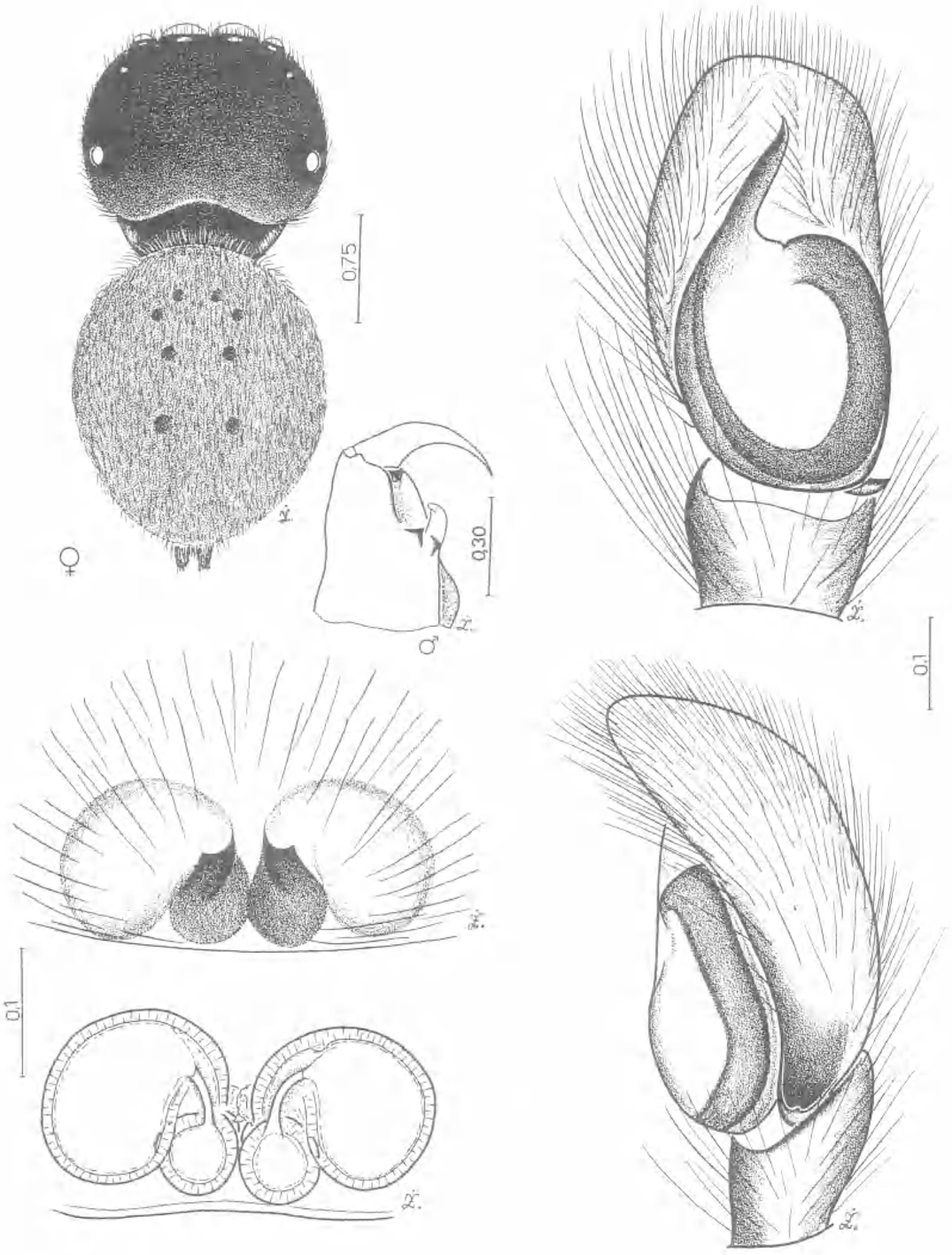
Cytaea spp. are found in grassland and on the leaves of shrubs and trees. The abdominal hairs are often rubbed off in preserved specimens which thus show less pattern.

Simon (1887: CLXXXVI) provided the replacement name *Servaea* for *Scaea* L. Koch, 1879 *praeocc. Servaea vestita* is found under the loose bark of eucalypts. The spider (as *Plexippus validus*) in Mascord (1970, Pl. 11, fig. 42) is probably *Servaea*.

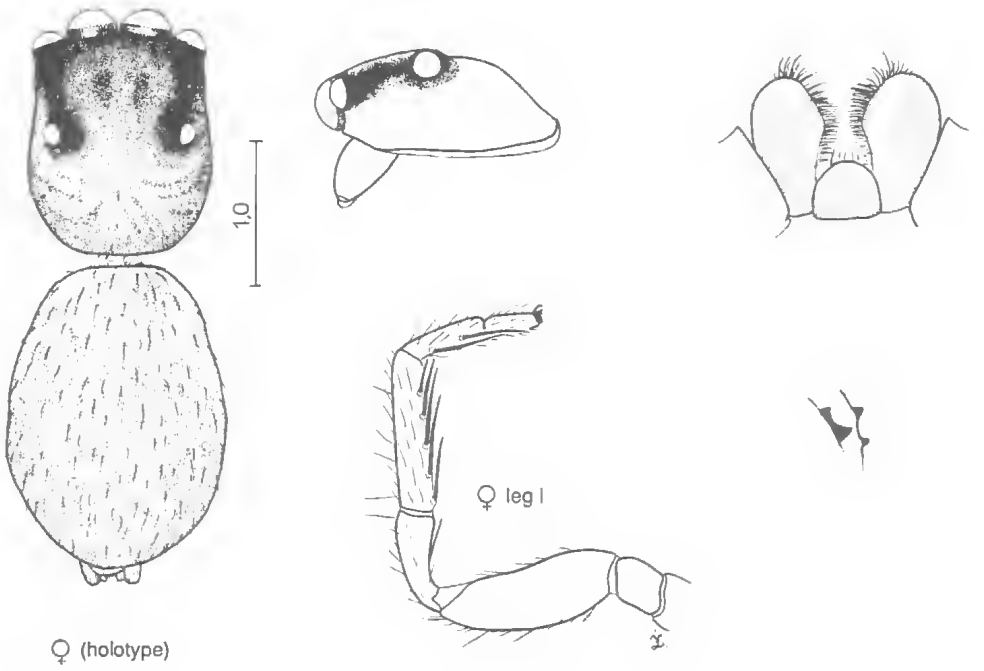
There are several undescribed *Euryattus* spp. in Australia. Jackson (1985b) discusses the biology of one from northern Queensland rainforest and its practice of using a suspended curled leaf as its nest.

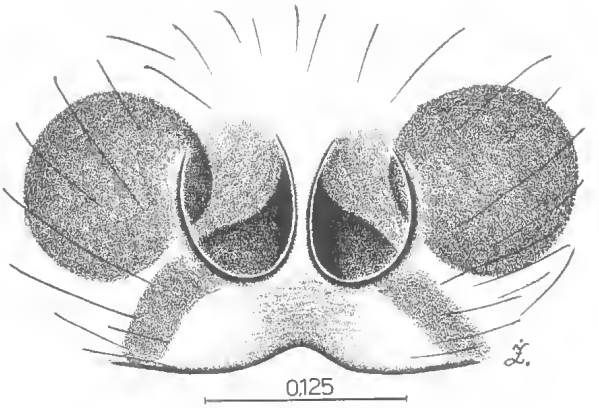


25. SIMAETHA THORACICA THORELL, 1881 *

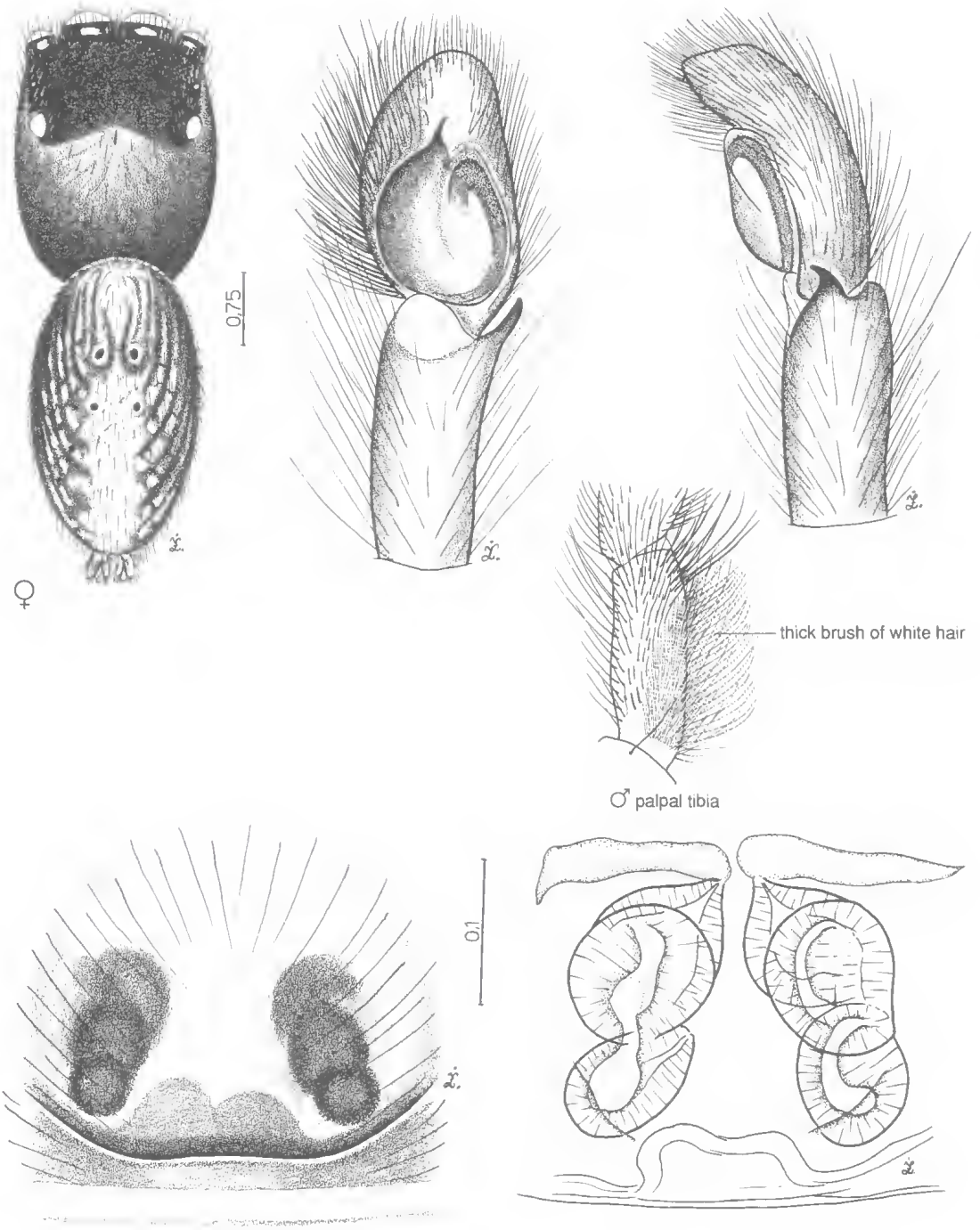


26. SIMAETHULA SPP. loc. ♀ Cape Tribulation, north Queensland,
♂ Brisbane, southeast Queensland

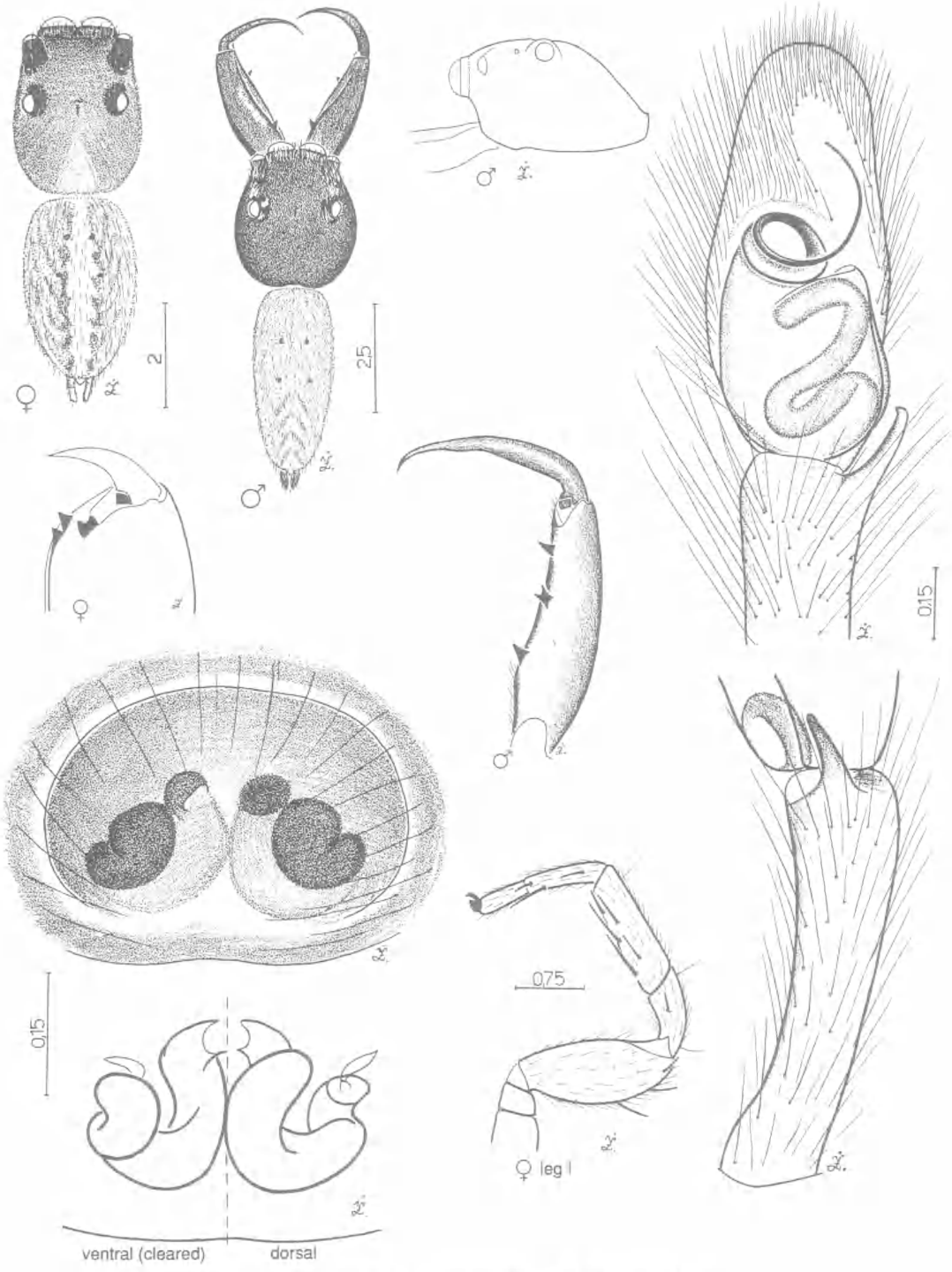




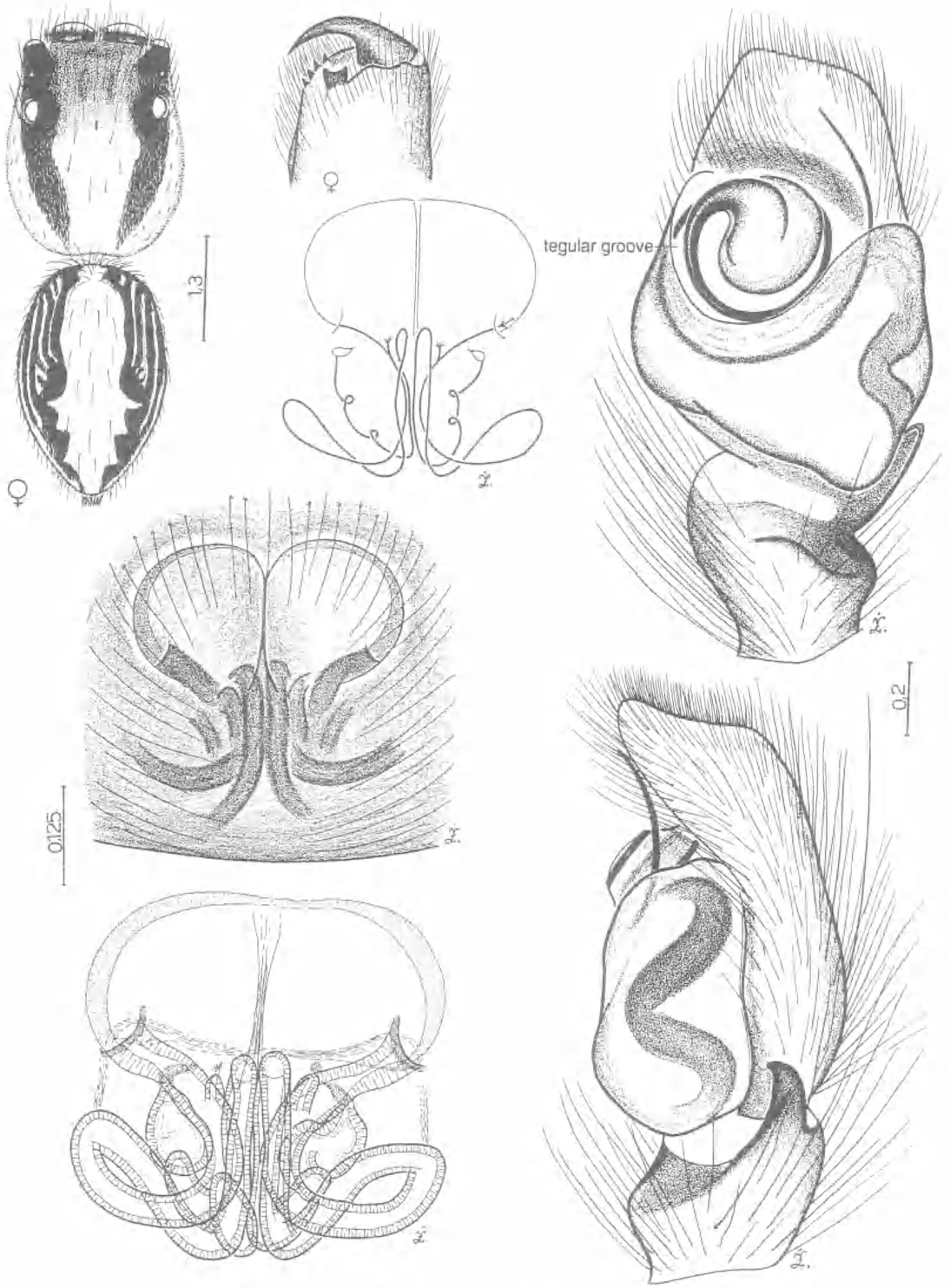
27. ADOXOTOMA NIGROOLIVACEA SIMON, 1909 *



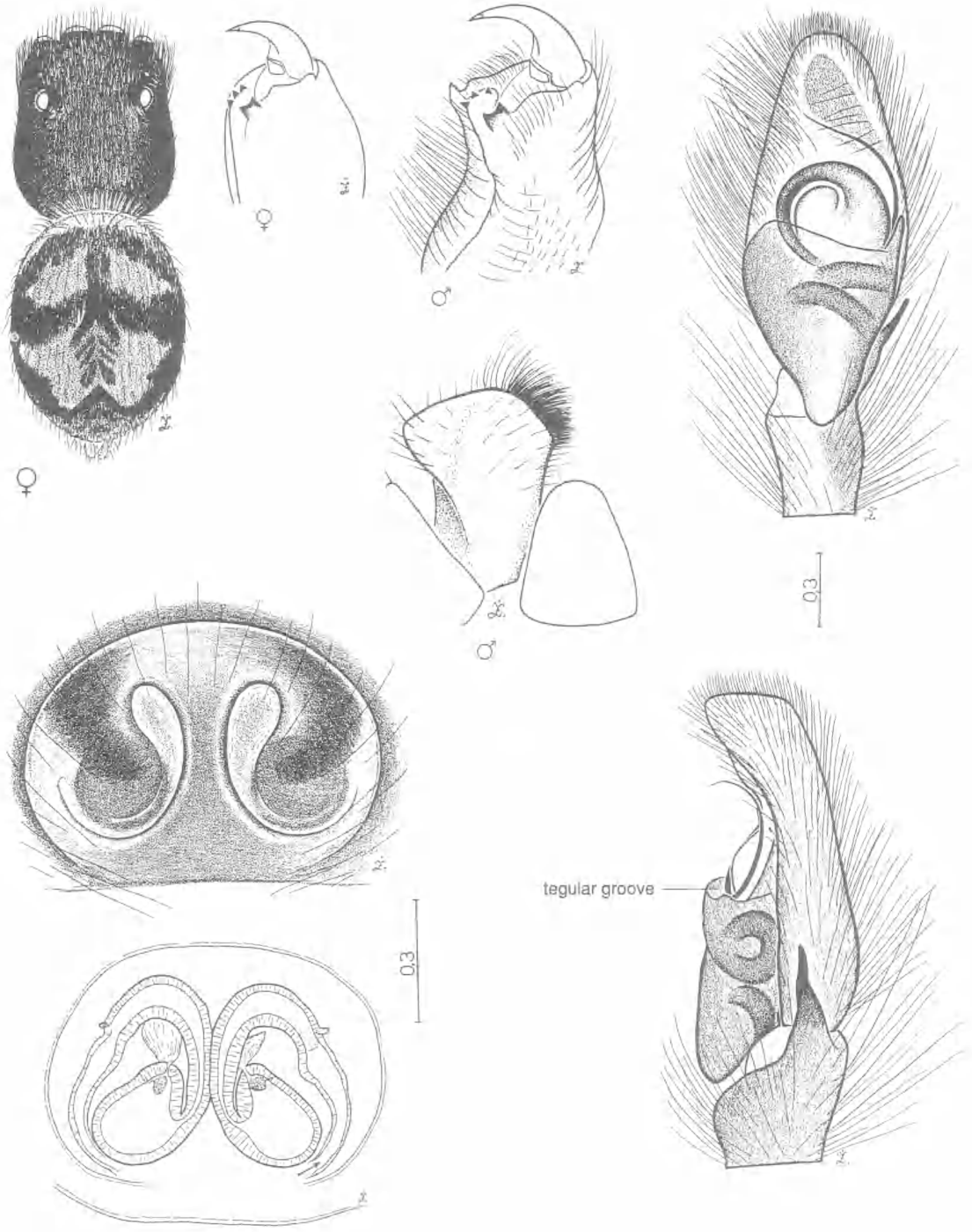
28. HASARIUS ADANSONI (SAVIGNY & AUDOUIN, 1825) *



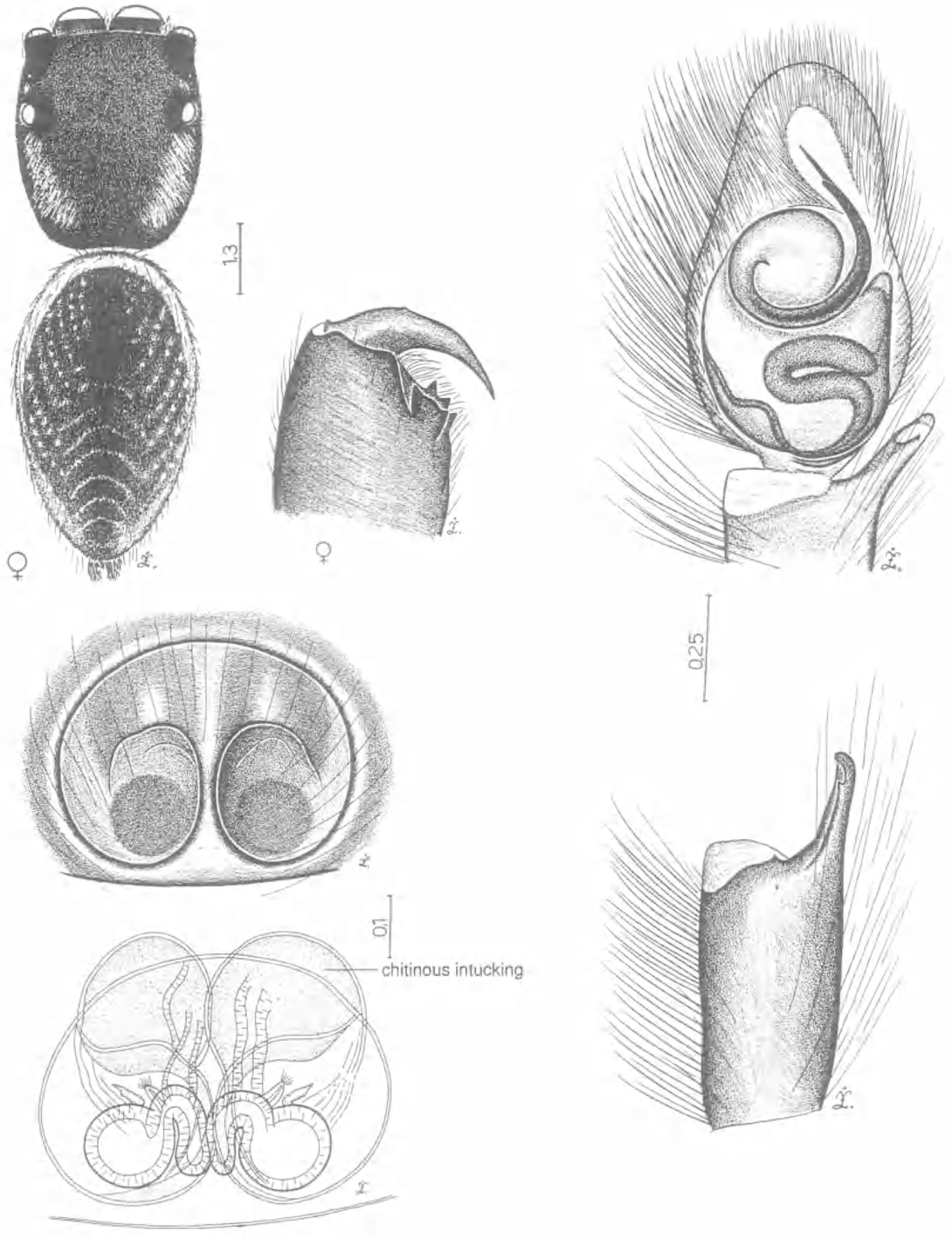
29. CANAMA HINNULEUS (THORELL, 1881)



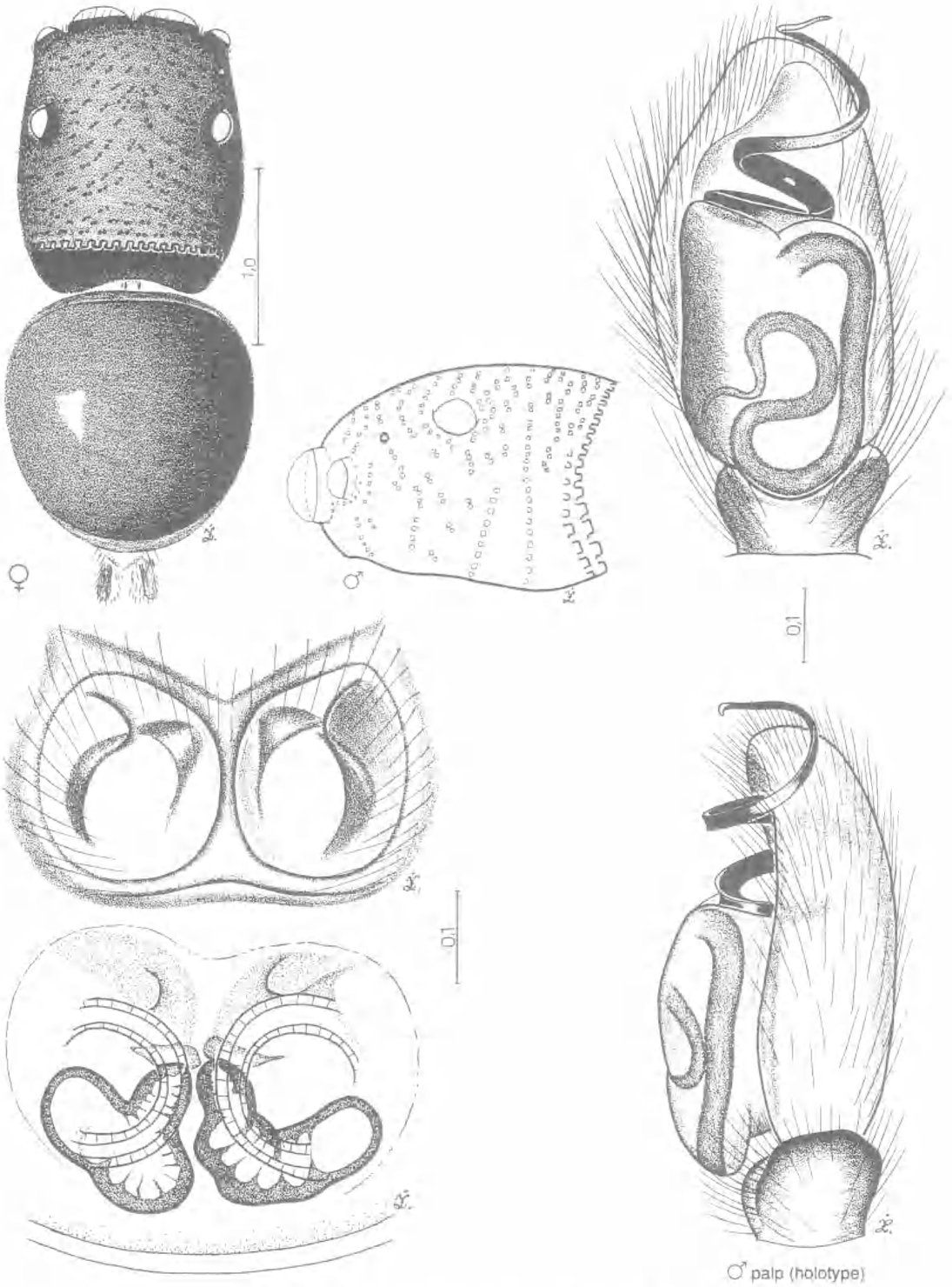
30. CYTAEA ALBURNA KEYSERLING, 1882*



31. SERVAEA VESTITA (L. KOCH, 1879) *



32. EURYATTUS BLEEKERI (DOLESCHALL, 1859)



33. COCCORCHESTES FERREUS GRISWOLD, 1984

UNIDENTATI — KEY TO GENERA

1. Carapace shiny and cylinder-like with crenellated posterior margin overlying abdomen. ♀ and ♂ with shiny dorsal abdominal scutum ..... (Pl. 33) *Coccorchestes* (northern Australia)
- Carapace not cylinder-like and without crenellated margin, ♀ without abdominal scutum 2
2. Cephalothorax high with almost vertical declivity posteriorly. Abdomen heart-shaped ..... (Pl. 34) *Omoedus* (northern Australia)
- Cephalothorax otherwise. Abdomen rarely heart-shaped 3
3. ♂ palp with strongly curved (anti-clockwise in left palp) anterior conductor/embolus. ♀ with adjoining epigynal fossae; spermathecae level with or posterior to fossae 4
- Without this combination of ♂ and ♀ characters. ♂ conductor/embolus usually runs clockwise, if anti-clockwise not strongly curved 13
4. Carapace strongly rounded in front; swelling below lateral eyes. Small tooth on retromargin of cheliceral groove. ♂ palp with tightly coiled conductor/embolus; tegulum without lobe posteriorly ..... (Pls 35,36,37) *Zenodorus* (includes *Mollika* and Australian *Pystira* spp.)
- Carapace rarely strongly rounded in front; without swelling below lateral eyes. Strong conical tooth on retromargin of cheliceral groove. ♂ palp with loosely coiled or curved conductor/embolus; tegulum with lobe posteriorly 5
5. Leg III as long as or longer than leg IV. Without brushes on ♂ leg I 6
- Leg III shorter than leg IV. With brushes on ♂ leg I (exc. *'Salpesia' squalida*) 10
6. Ocular quadrangle clearly narrower behind than in front 7
- Ocular quadrangle equal or slightly narrower behind 8
7. Carapace clearly wider than PLE and widening further in *pars thoracica*. Patch of strong bristles between ALE. Abdomen almost as wide as long. ♀ spermathecae close together ..... (Pl. 38) *Margaromma* (♂ unknown)
- Carapace slightly wider than PLE and scarcely widening in *pars thoracica*. Without patch of strong bristles between ALE. Abdomen much longer than wide. ♀ spermathecae well separated. ♂ palpal tibia with long, stout seta dorsally ..... (Pl. 39) *Palpelius*

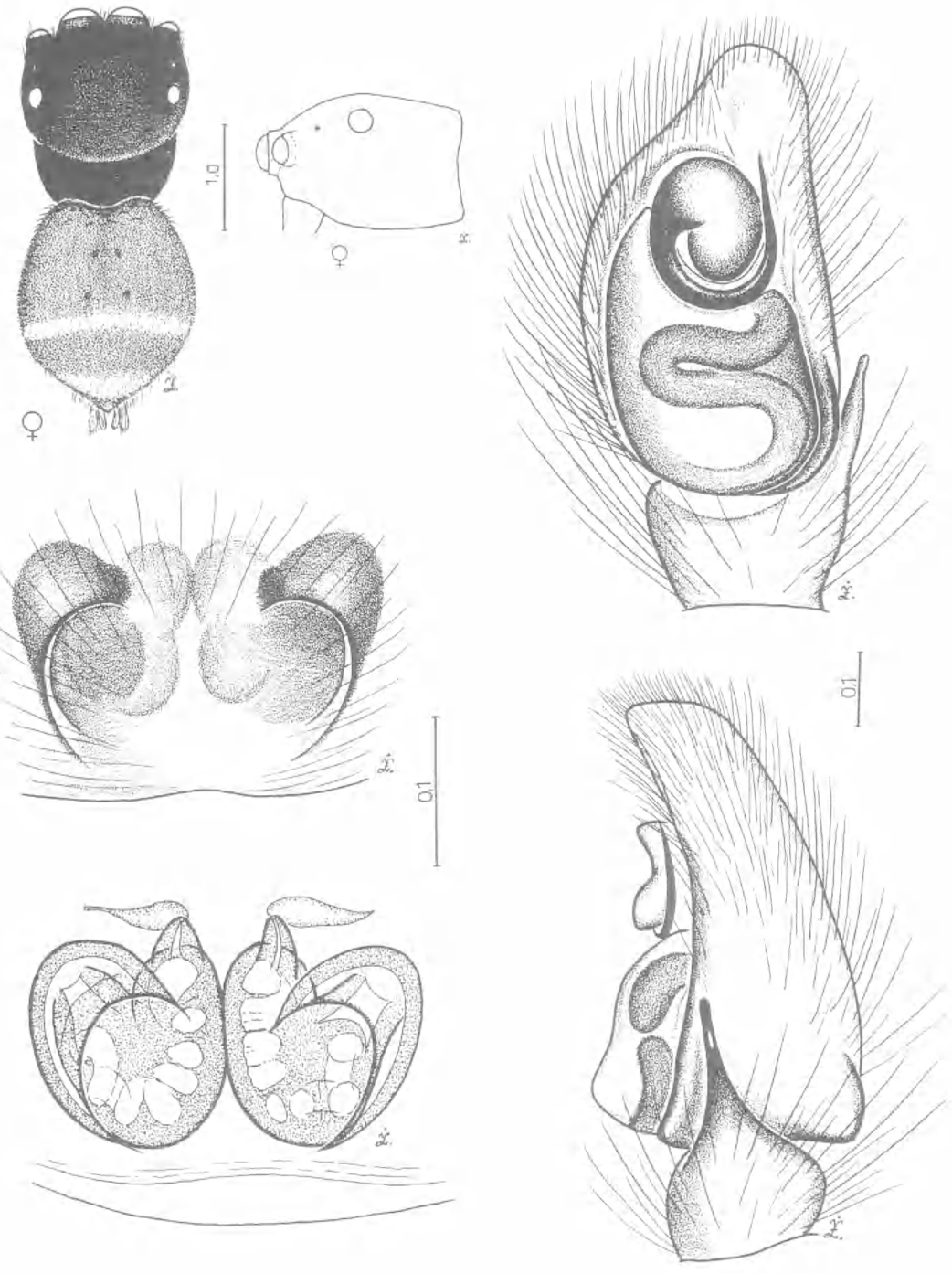
Griswold (1984) described the ♀ *Coccorchestes ferreus* from north Queensland. The ♂ *C. ferreus* is illustrated for the first time; its 'chambered' spermathecae are similar to those found in *Omoedus*.

Omoedus is recorded from Australia for the first time. Like *Coccorchestes*, it is a small spider, better known from Papua New Guinea.

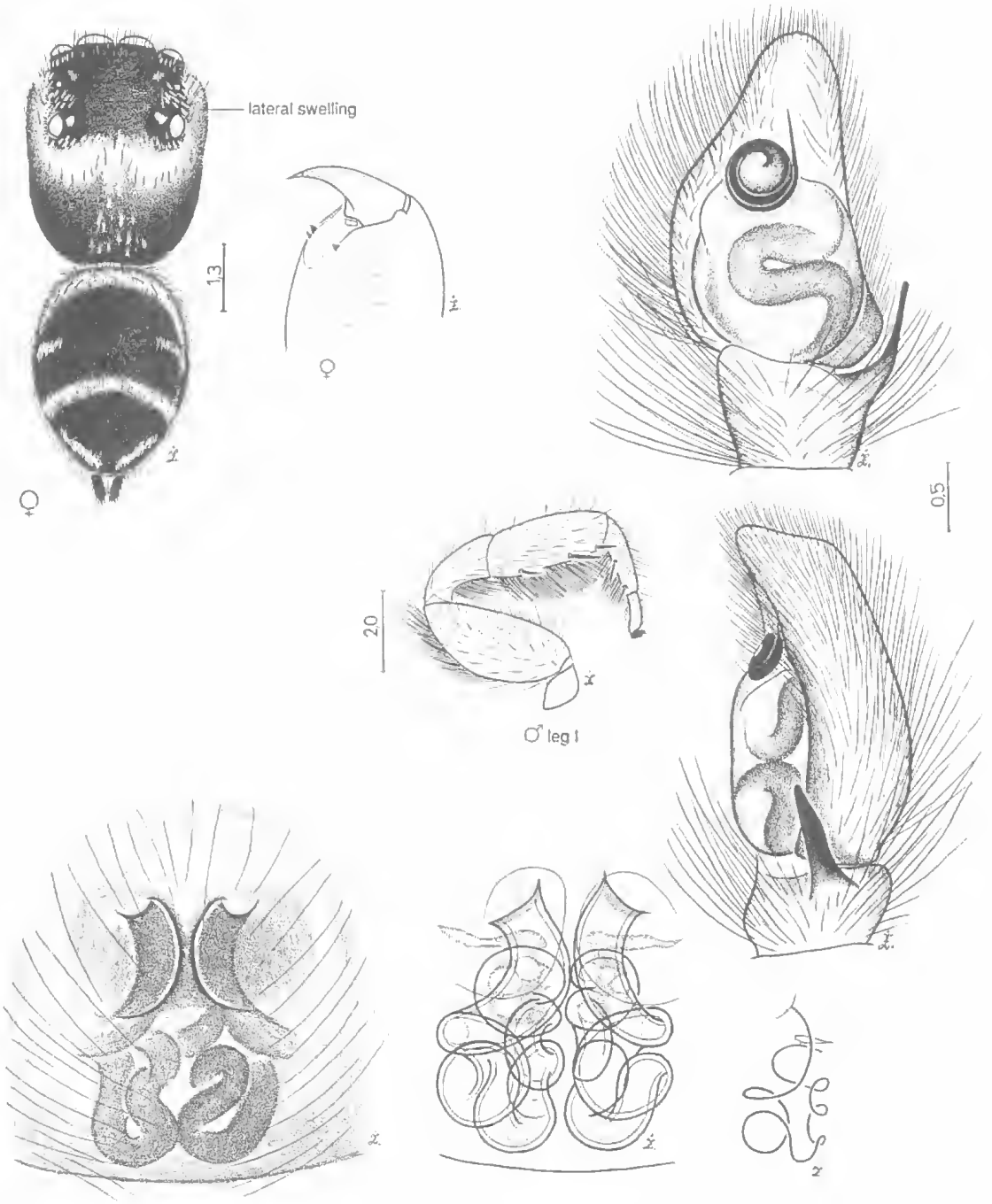
Zenodorus, Mollika and *Pystira* were among the genera in Simon's group, Zenodoreae. Żabka (1988) has recently placed *Mollika* Peckham & Peckham, 1901 as a junior synonym of *Zenodorus* Peckham & Peckham, 1885. We have transferred the Australian *Pystira* spp. to *Zendorus* thus *Pystira orbiculata* = *Zenodorus orbiculatus* (Keys., 1881) n.comb., and *Pystira obscurofemorata* = *Zenodorus obscurofemoratus* (Keys., 1881) n.comb. In *Z. durvillei* leg III of the ♂ is longer than leg IV and it lacks the white scale-like hairs found on the front of the ♂ chelicerae in the other species.

When describing *Margaromma*, Keyserling (Koch and Keyserling 1871–1883) had 3 specimens, a ♀ from Cape York (in BMNH) and ♀ and ♂ — 'Parchen' (loving couple) — from Sydney which we have not located. The ♀ syntype from Cape York is without doubt that illustrated (Koch and Keyserling *loc. cit.*) and it is re-figured here. Spiders similar to the ♂ syntype have been found in Sydney and will be described later, with the ♀♀, as a new genus.

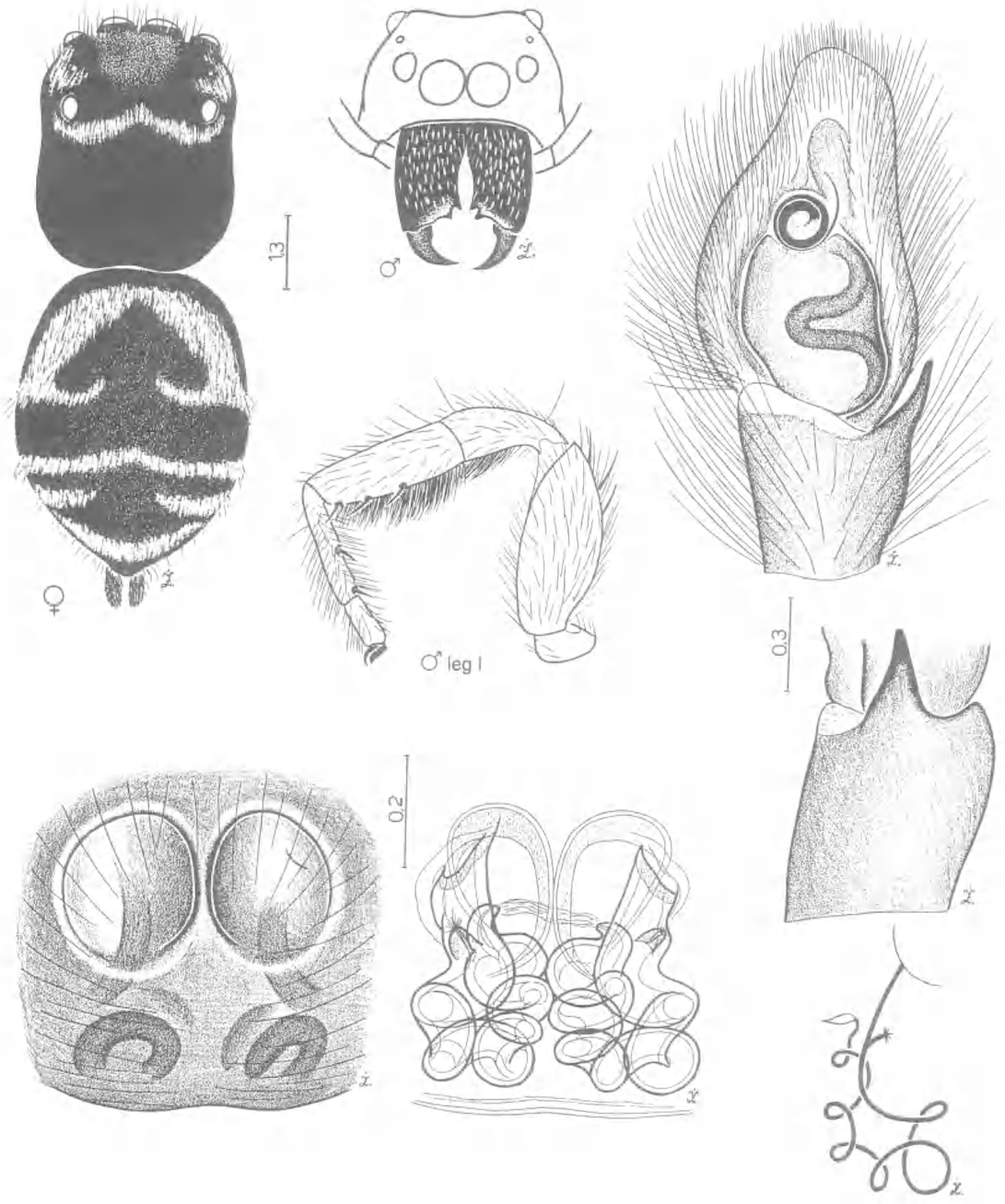
Simon (1897–1903: 735) chose *Plexippus beccarii* Thorell, 1881 as the type species of the genus *Palpelius*. It is a large spider found in northern Australia. It is unlikely that it is closely related to the following 'saitine' group of genera.



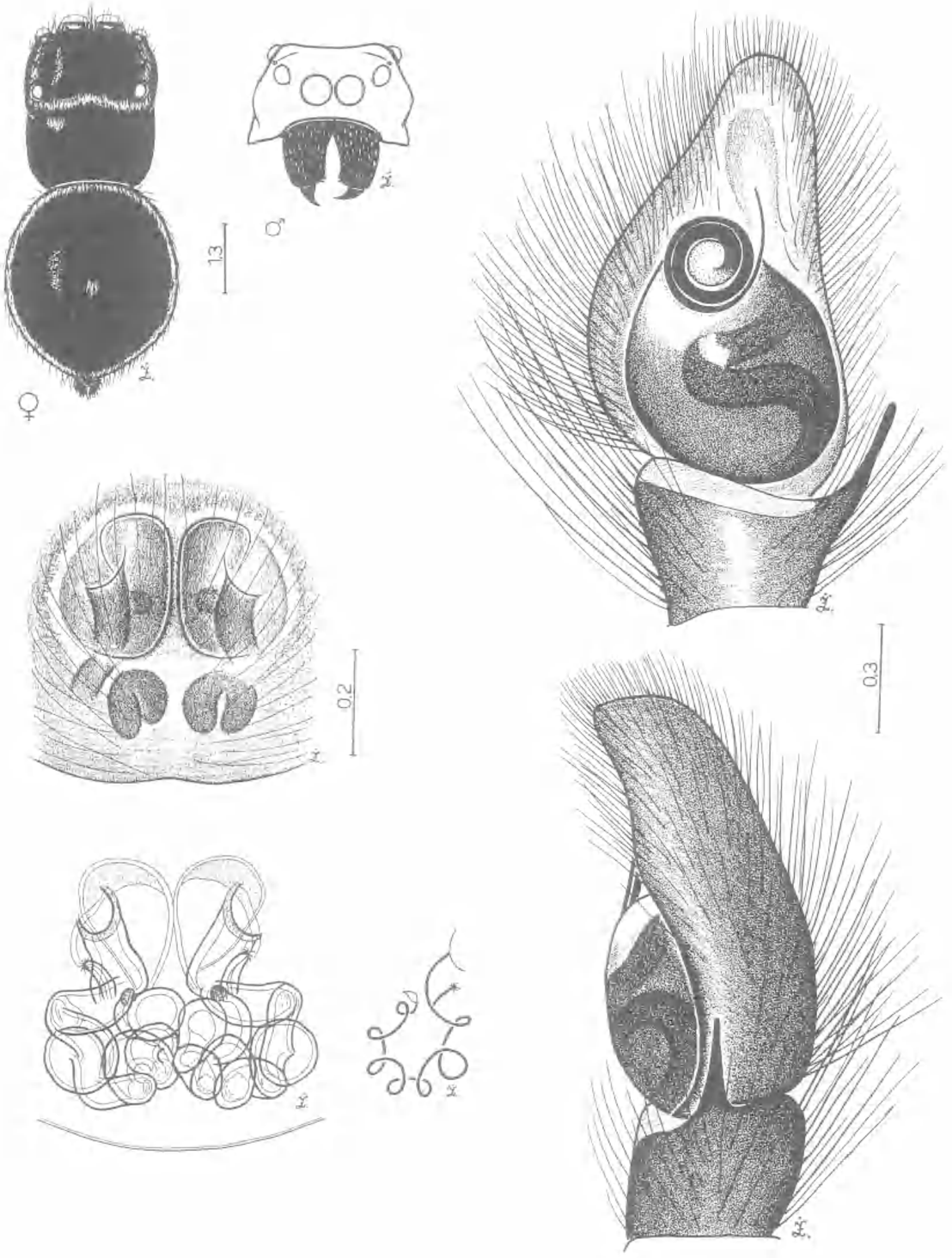
34. OMOEDUS SP. loc. Iron Range, north Queensland



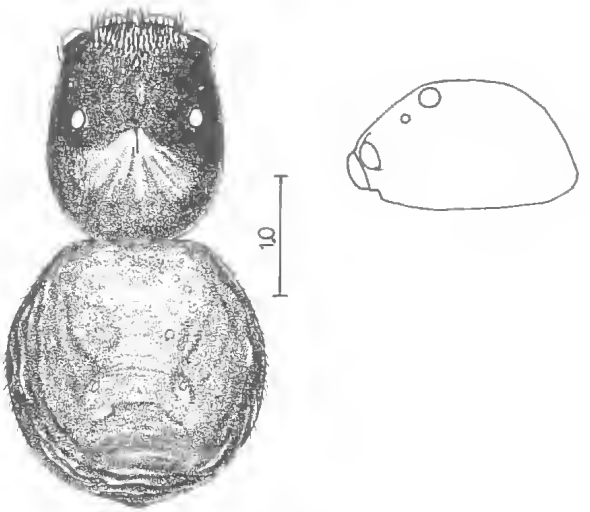
35. ZENODORUS DURVILLEI (WALCKENAER, 1837) *



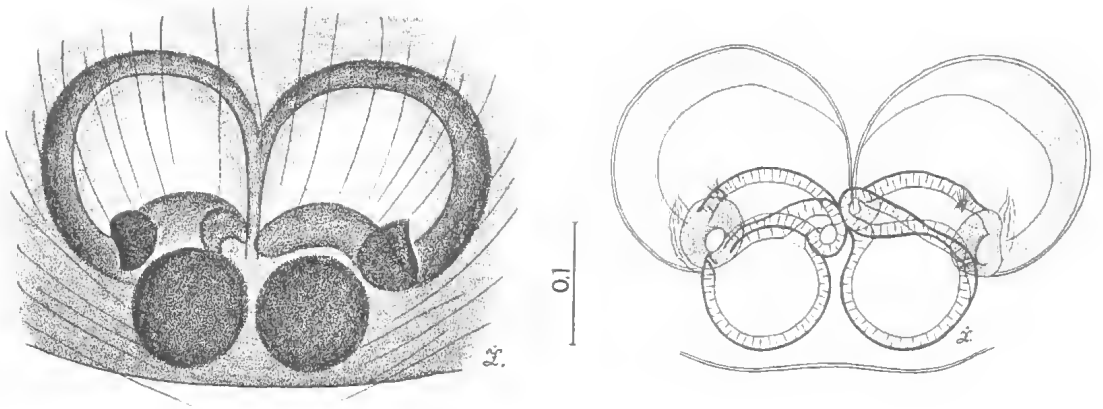
36. ZENODORUS METALLESCENS (L. KOCH, 1879)



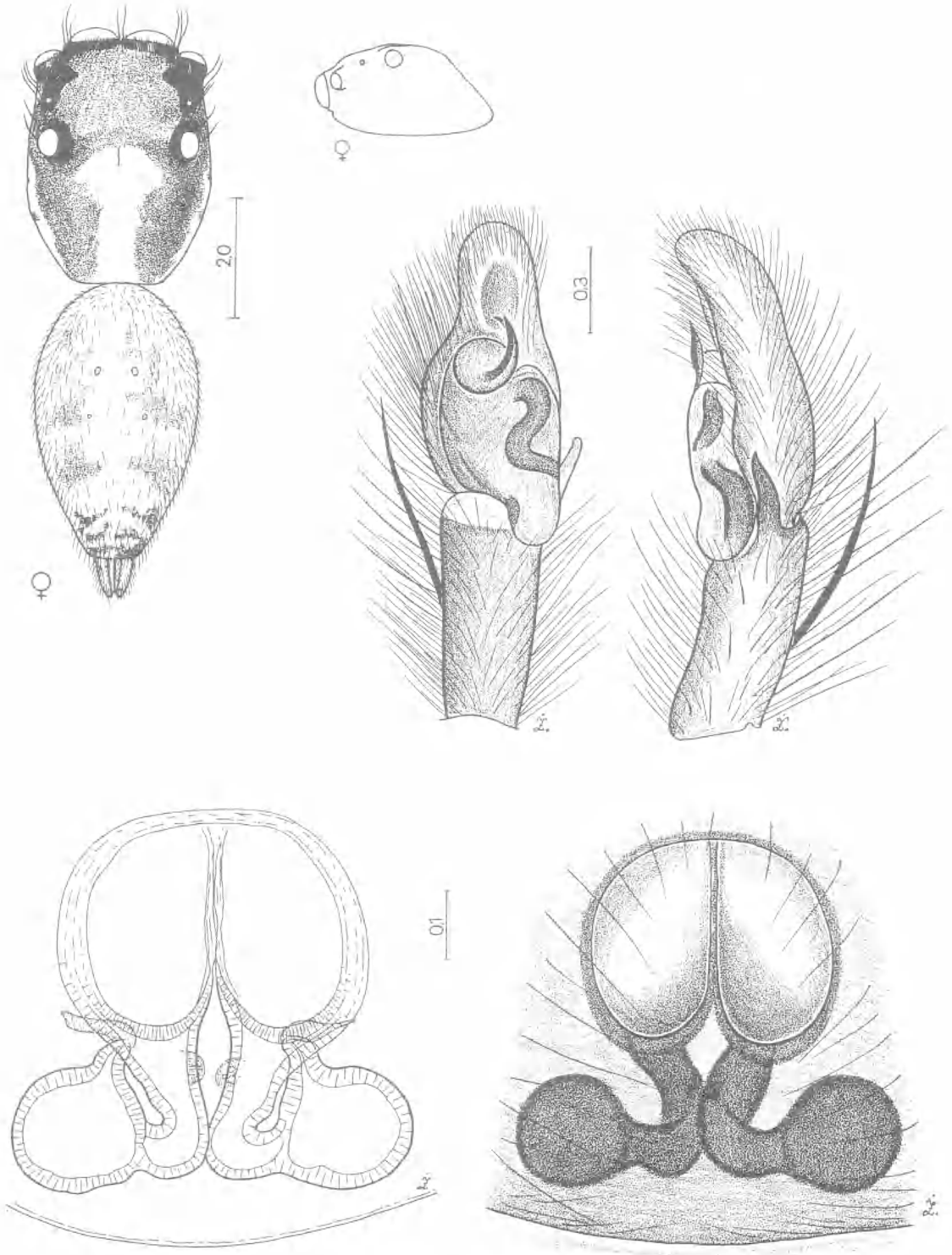
37. ZENODORUS ORBICULATUS (KEYSERLING, 1881) *N. COMB.*



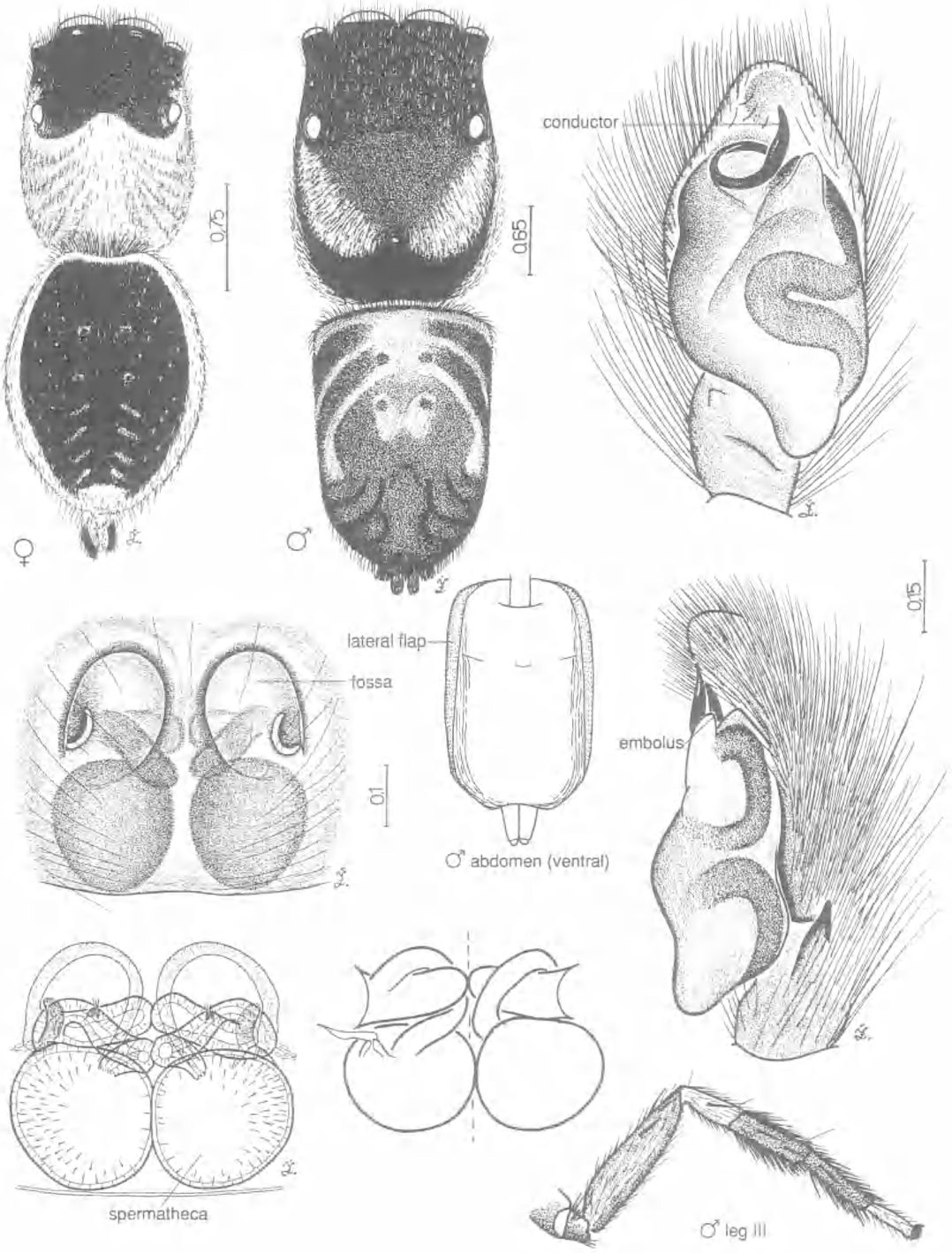
♀ (syntype)



38. MARGAROMMA FUNESTUM KEYSERLING, 1882 *



39. PALPELIUS BECCARII (THORELL, 1881) *



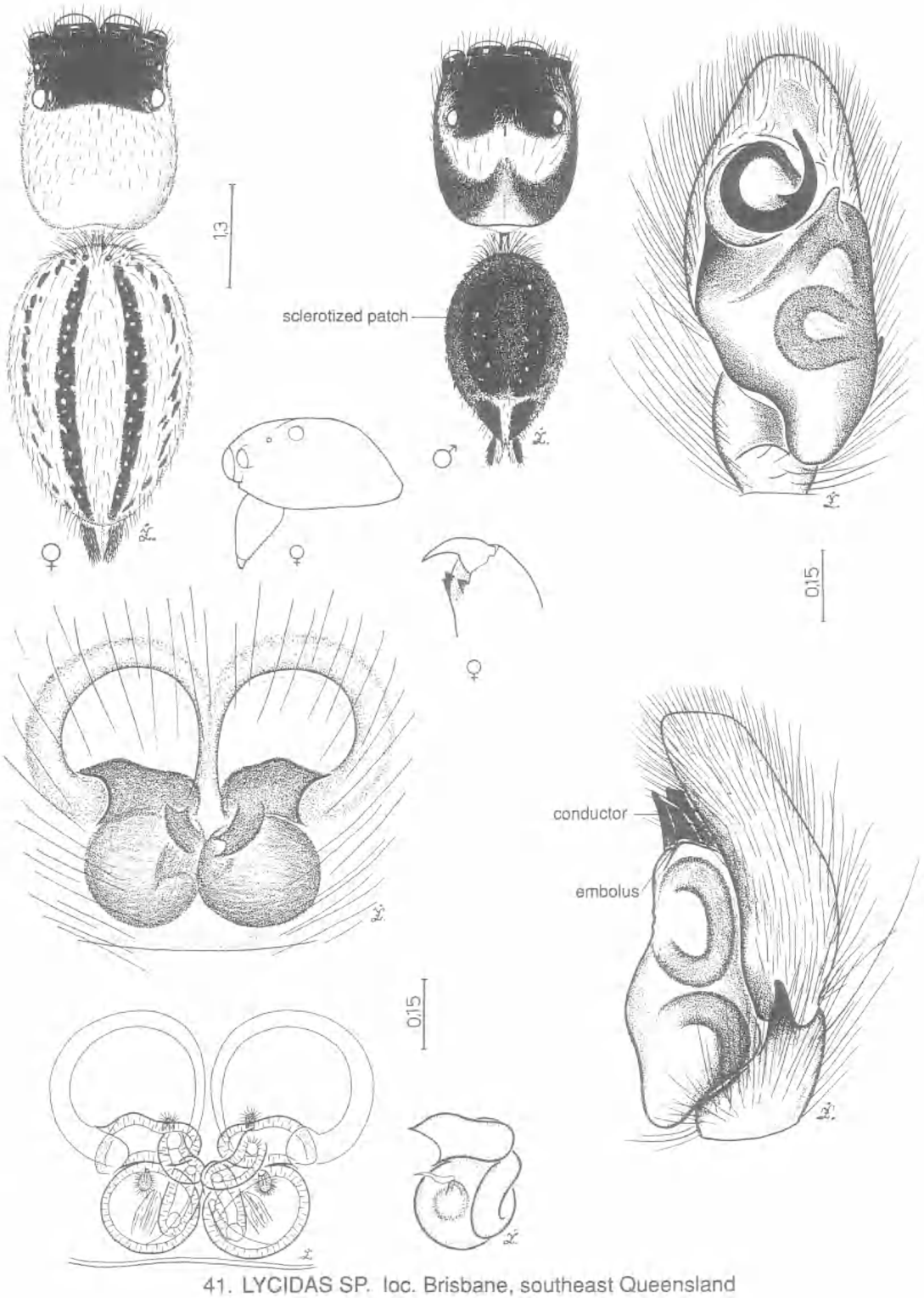
40. MARATUS SP. loc. Brisbane, southeast Queensland

8. Iridescent scale hairs on ♂ abdomen. Brushes of hair on ♂ tibia and metatarsus III. Chelicera with 2 promarginal teeth. ♀ spermathecae wider than fossae ..... (Pl. 40) *Maratus*
- Without iridescent hairs on ♂ abdomen. With or without brushes of hair on ♂ tibia III. Chelicera with one fissident promarginal tooth. ♀ spermathecae not as wide as fossae 9
9. With or without slight brushes of hair on ♂ tibia III. Without mat of short thick hair between eyes of ♂. Chelicera with pointed retromarginal tooth. Dorsal abdominal sclerotization in ♂ .... (Pl. 41) *Lycidas*
- Brushes of hair on ♂ femur, patella, tibia III. Mat of short, thick hair between eyes of ♂. Chelicera with large, blunt retromarginal tooth. Without dorsal abdominal sclerotization in ♂ .... (Pl. 42) *Hypoblemum*
10. Ocular quadrangle clearly narrower behind. ♂ without brushes of hair on leg I. ♀ insemination ducts arising medially; spermathecae level with fossae ..... (Pl. 43) *'Salpesia' squalida*
- Ocular quadrangle equal or slightly narrower behind. ♂ with brushes of hair on leg I. ♀ insemination ducts arising laterally, spermathecae partly posterior to fossae 11
11. Carapace bordered laterally by pale band (often with white hairs). Fringes on femur, patella, tibia, metatarsus and tarsus ♂ leg I. ♂ embolus and conductor separate. ♀ spermathecae spherical ... 12
- Carapace not bordered laterally by pale band. Fringe on ♂ metatarsus I only. Single conductor/embolus. ♀ spermathecae pear- shaped ..... (Pl. 44) *Prostheclina*
12. ♂ with stridulatory ridges at back of carapace ..... (Pl. 45) *'Lycidas' michaelseni*
- ♂ without stridulatory ridges at back of carapace ..... (Pl. 46) *Jotus*
(♀ unknown)

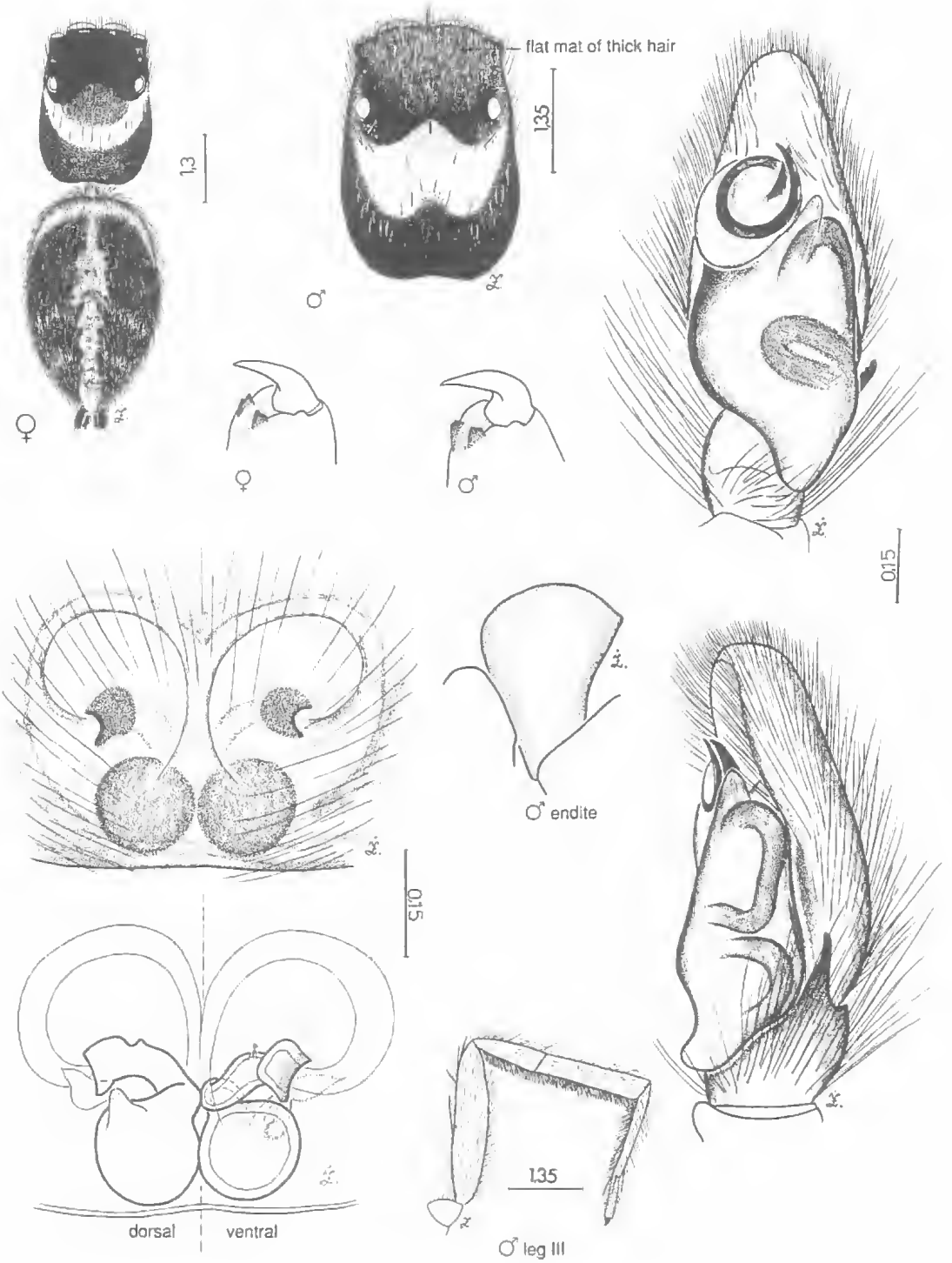
In the 3 spiders, *Maratus, Lycidas* and *Hypoblemum*, leg III of the ♂ is longer than leg IV and usually shows some fringing. Żabka (1987b) has reinstated *Maratus* Karsch; the ♂ has iridescent abdominal scale hairs that give various multi-coloured patterns which are specific. Mascord (1970, Pl. 10, fig. 35) shows ♂ *M. volans* (as *Saitis*). The dorsal abdomen of the ♂ is produced laterally to form flaps of varying size which are raised when the abdomen is erect during courtship (pers. comm. Julianne Waldock). The ♀, illustrated here for the first time, is sombrely coloured. Żabka (*loc. cit.*) also reinstated *Lycidas* Karsch. *Acmaea villosum* Keys., the type species of *Hypoblemum,* has not been traced. However the genus is recognised by the ♂, which has a dense mat of flat hair between the eyes, heavy fringing on leg III, and lacks iridescent abdominal hairs. The ♀ is illustrated for the first time.

In *'Salpesia' squalida, Prostheclina, 'Lycidas' michaelseni* and *Jotus* leg IV is longer than leg III and, in all except *'S'. squalida*, there is fringing on ♂ leg I. The syntypes of *'Salpesia' squalida* have not been located, the ♀ is drawn from fresh material, and the ♂ palp is copied from Koch and Keyserling (*loc. cit.*). The ♀ epigyne is quite different from that of *Salpesia soricina* from the Seychelles. We believe that Keyserling's ♂ syntype of *Prostheclina pallida*, which has not been located, was not conspecific with the syntype ♀ (BMNH). Simon (1897–1903: 565) placed *Prostheclina* as a junior synonym of *Saitis*; we reinstate it as a valid genus because the pear-shaped spermathecae, the embolic structure, the shortness of ♂ leg III and the fringing of ♂ metatarsus I are quite unlike those of *Saitis*. We include in the genus only *P. pallida*; there are several undescribed species. Other than the ♂ holotype, only one ♂ *Jotus auripes* has been found and it is illustrated; the ♀ remains unknown but it is expected to have swollen insemination ducts similar to those of *'Lycidas' michaelseni*. *Jotus* was synonymised with *Lycidas* by Żabka (1987b). It is reinstated and may be separated from *Lycidas* by ♂ leg III being shorter than IV and the presence of fringes on ♂ leg I. ♂ *'Lycidas' michaelseni* from Western Australia differs from *Jotus* in the possession of stridulating ridges at the back of the carapace. See Gwynne and Dadour (1985) for details of the part stridulation plays in courtship. This is the first illustration of the ♂ palp; congeneric spiders have been found in Queensland.

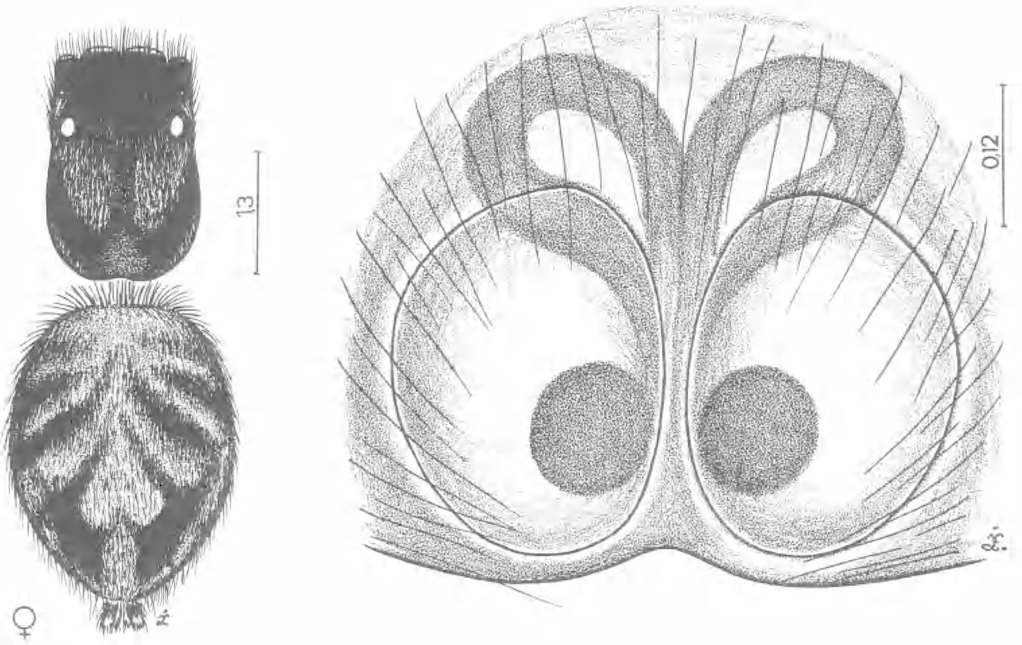
The type species of the small spider, *Lauharulla*, ♀ *L. pretiosa* has not been located nor have fresh specimens been found. From the illustrations (Koch and Keyserling *loc. cit.*) the sternum is shown to be as wide as long, otherwise it appears close to the above genera.



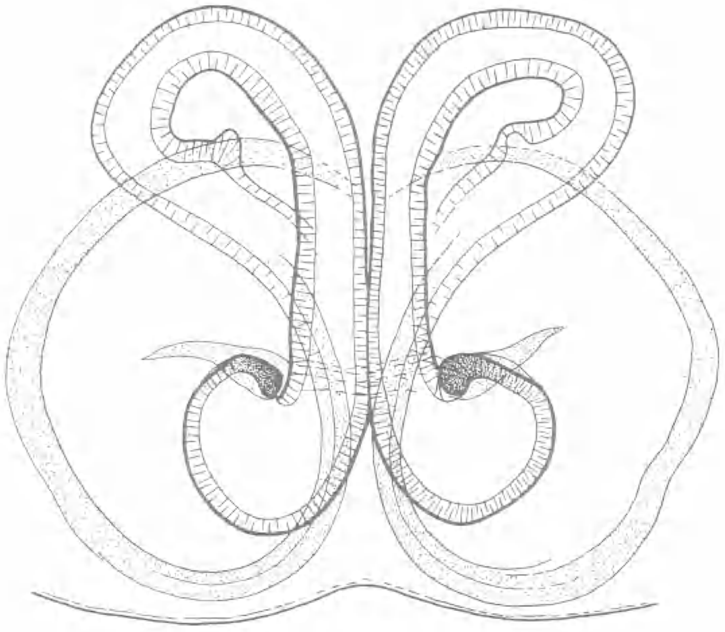
41. LYCIDAS SP. loc. Brisbane, southeast Queensland



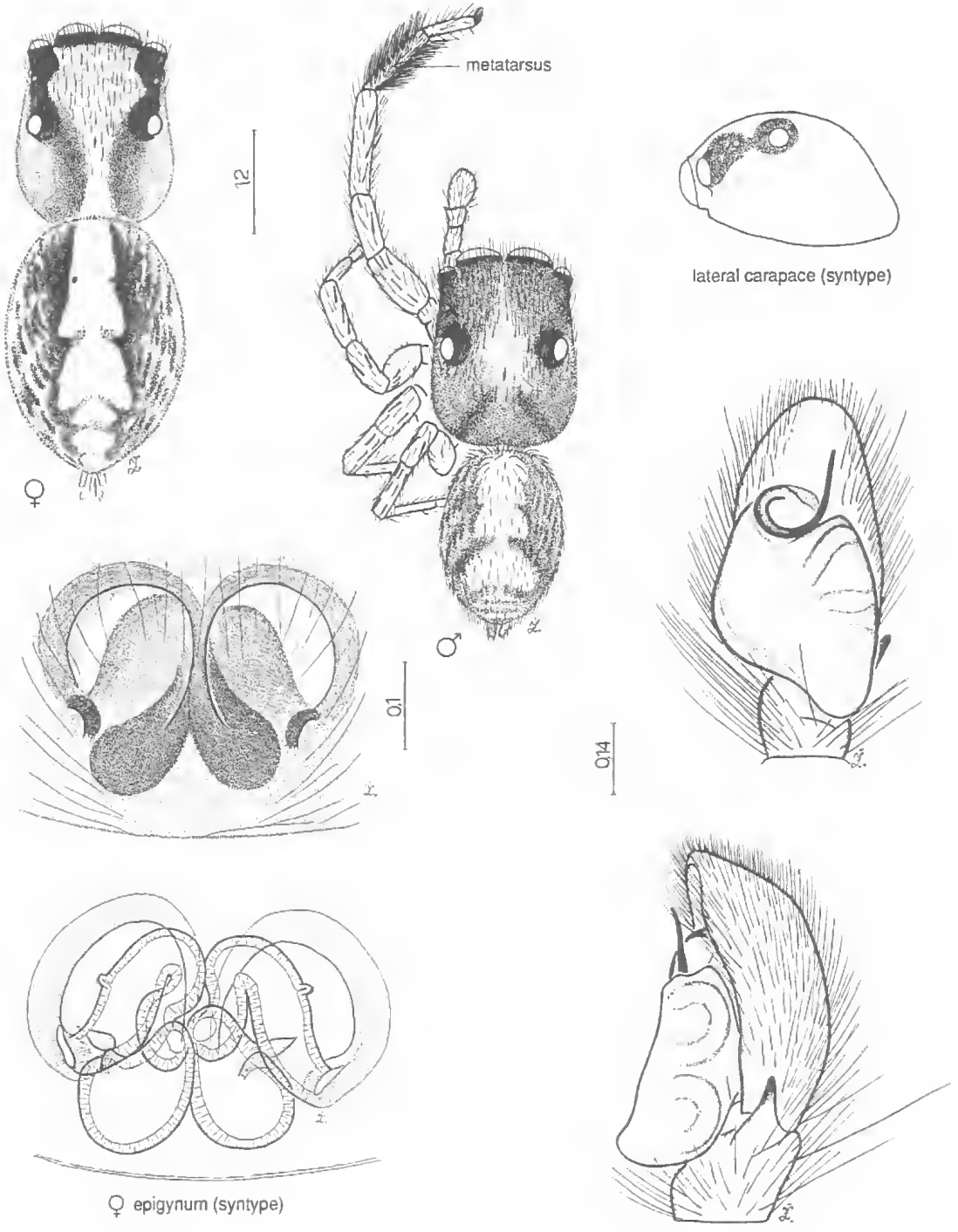
42. HYPOBLEMUM SP. loc. Cedar Creek, Samford, southeast Queensland.



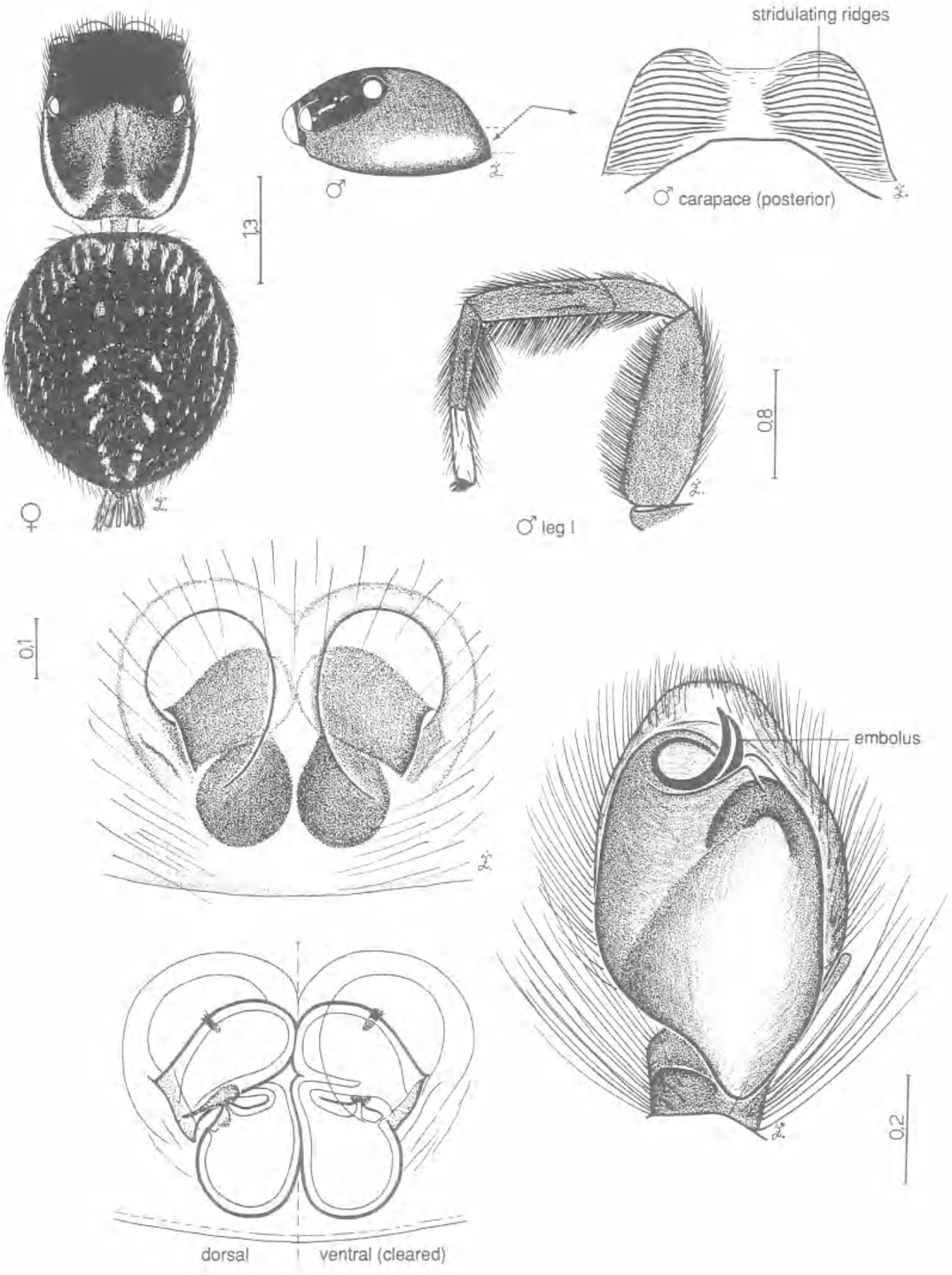
♂ palp (syntype)



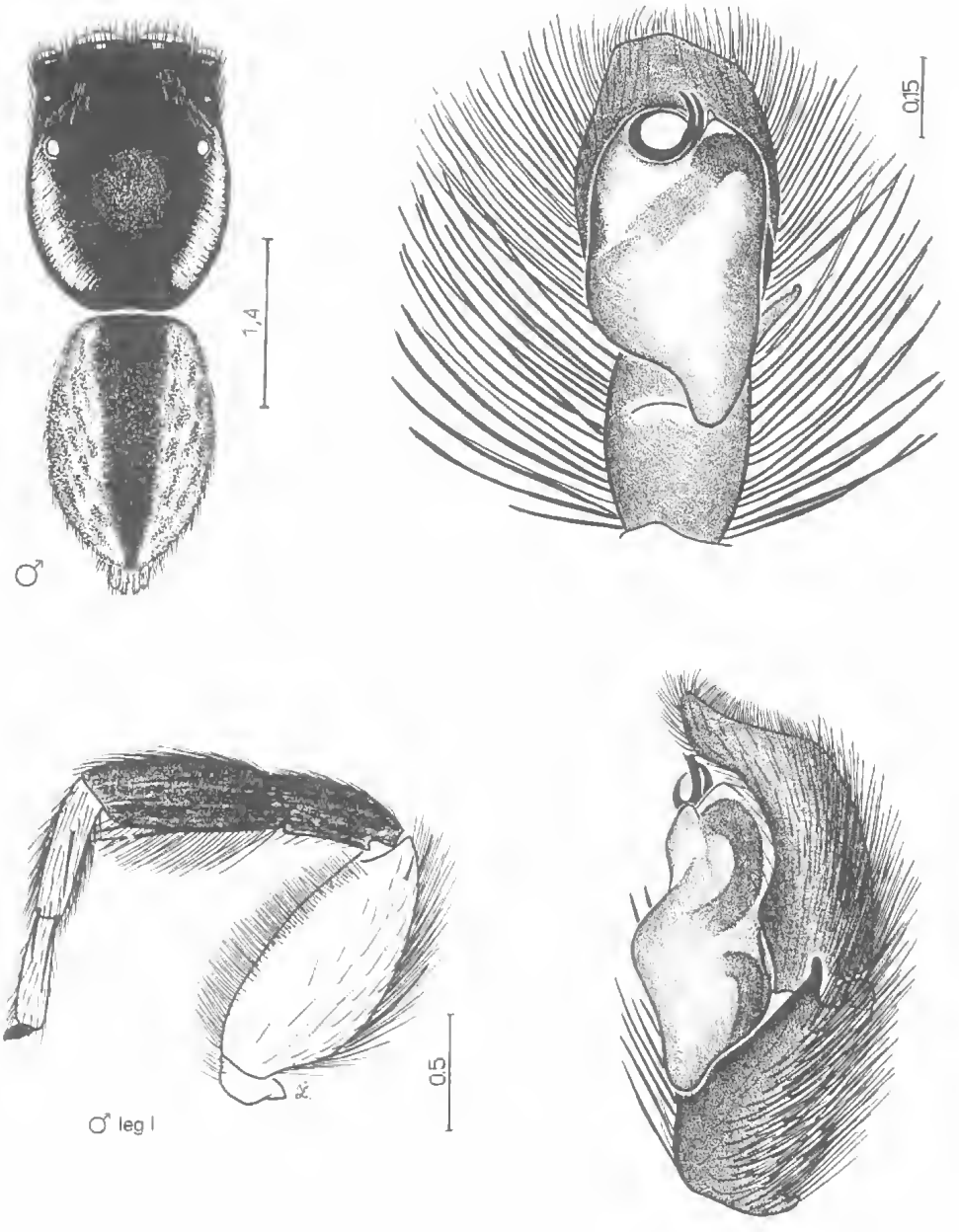
43. 'SALPESIA' SQUALIDA (KEYSERLING, 1883)



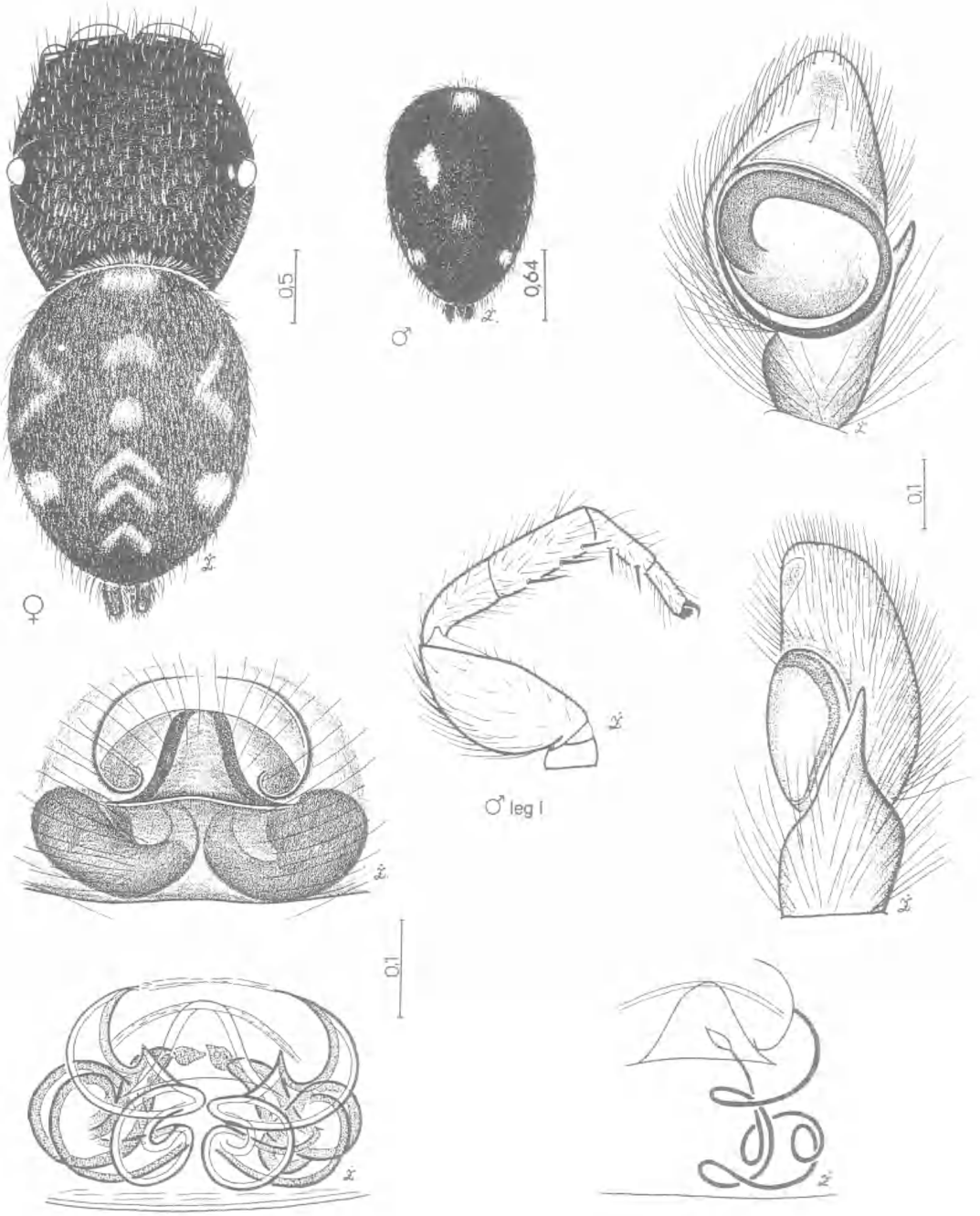
44. PROSTHECLINA PALLIDA KEYSERLING, 1882 *



45. 'LYCIDAS' MICHAELSENI (SIMON, 1909)



46. JOTUS AURIPES L. KOCH, 1881 *



47. BIANOR MACULATUS (KEYSERLING, 1883) *

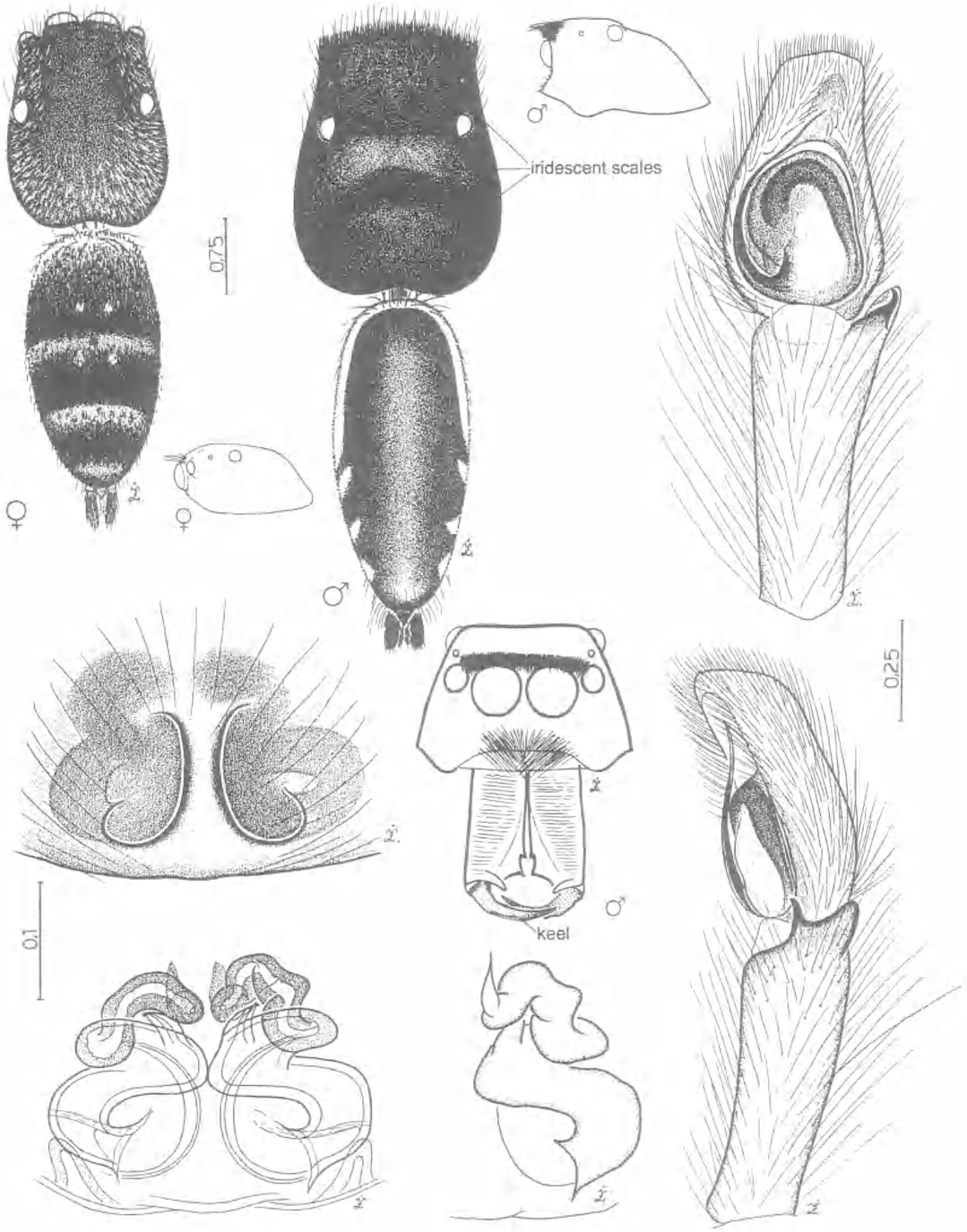
13. Ocular quadrangle much wider behind than in front. PLE on tubercles. Carapace widest at PLE (Pl. 47) *Bianor*
- Ocular quadrangle about equal or narrower behind than in front. PLE rarely on tubercles. Carapace rarely widest at PLE 14
14. Iridescent scale-like hairs often arranged in bands on body. ♂ embolus spiniform, arising posterolaterally, often longer than bulb, ♀ spermathecae anterior to fossae ..... (Pl. 48) *Cosmophasis* (northern Australia)
- Iridescent scale-like hairs if present not arranged in bands on body. ♂ embolus usually otherwise. ♀ spermathecae usually posterior to fossae 15
15. ♂ tegulum wider than long with prolateral keel. ♀ epigynal plate longer than wide ..... (Pl. 49) *Plexippus* (northern Australia)
- ♂ tegulum not wider than long, without keel. ♀ epigynal plate as wide or wider than long 16
16. Cephalothorax moderately high, sides rounded 17
- Cephalothorax low, sides more or less parallel 19
17. ♂ tegulum with posterior lobe; embolus spiniform; tibial apophysis slender, bifurcate. ♀ posterior epigynal margin strongly indented with slender median projection ..... (Pl. 50) *Frigga* (introduced)
- ♂ tegulum without posterior lobe; embolus short; tibial apophysis thick, undivided. ♀ posterior epigynal margin slightly indented without median projection 18

Bianor maculatus is a small spider that has been collected by sweeping grassland or shrubs. It is certainly closely related to *Harmochirus*, a fissident spider (see Pl. 22).

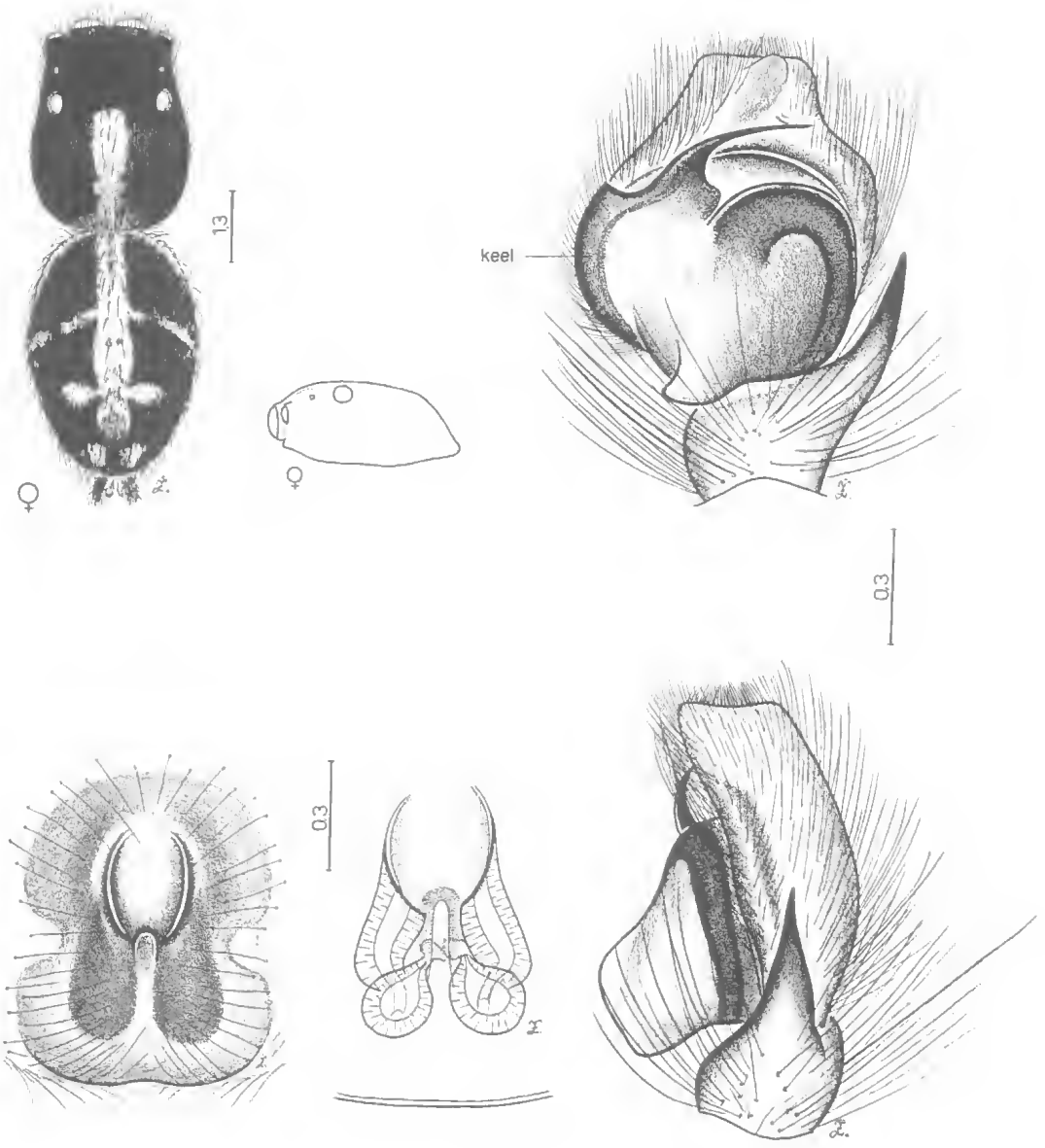
Cosmophasis is a very active spider which has multi-coloured iridescent scale hairs on the carapace, abdomen and palps. These hairs are easily removed and often hard to see in preserved specimens. Several males have been described from tropical Queensland. The ♂ illustrated resembles *C. micans* in pattern and in the presence of a low keel on the fangs but has a lower clypeus than that illustrated in Koch and Keyserling (*loc. cit.*). Main (1976, Colour plate, fig. 24) shows the ♀ (as *Saitis*) and calls it the Peacock Spider. Mascord (1970, Pl. 9, fig. 34) shows the ♂. Jackson (1986c) studied the display behaviour of this spider (as *C. micarioides*) and found that it uses one of three different mating tactics depending on the female's maturity and location. She may be encountered away from her nest, in the nest or as a sub-adult in her nest, in which case the ♂ builds a second chamber on the nest and co-habits until she moults and matures. Jackson (1987) further discusses the positive response that *Cosmophasis* spp. gave in relation to pheromones on silk as releasers of salticid courtship.

Plexippus paykullii and *P. petersii*, large tropical spiders, are the only two species of the genus known from Australia, although many spiders have been described in or transferred to this genus.

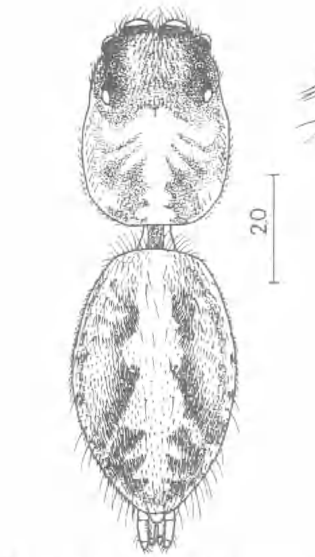
Galiano (1979) synonymised *Sandalodes calvus* Simon with *Frigga crocuta*. It is a large cosmopolitan spider, of which no fresh material has been collected. The types of *S. calvus* (from MNHP) are drawn.



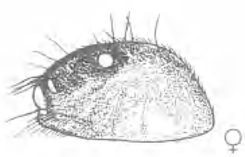
48. COSMOPHASIS SP. loc. Clifton Beach, north Queensland



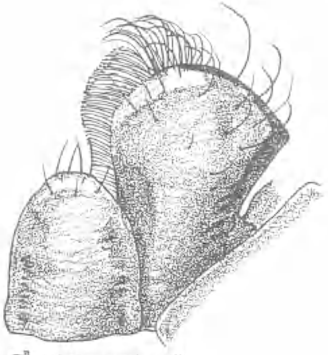
49. PLEXIPPUS PAYKULLII (SAVIGNY & AUDOUIN, 1827) *



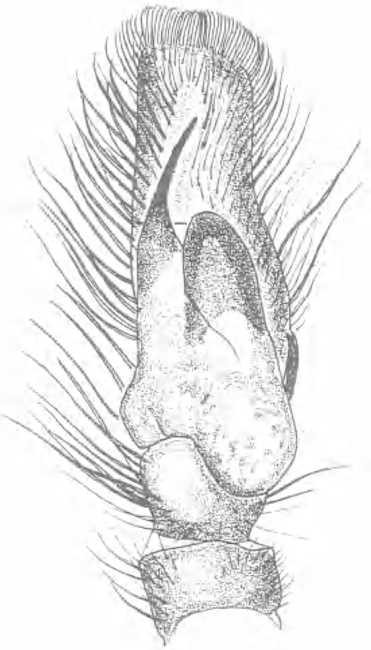
♀ *(syntype of Sandalodes calvus)*

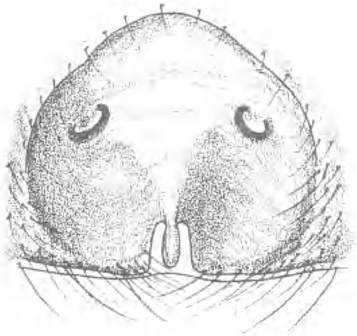


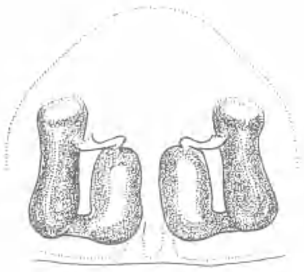
♀

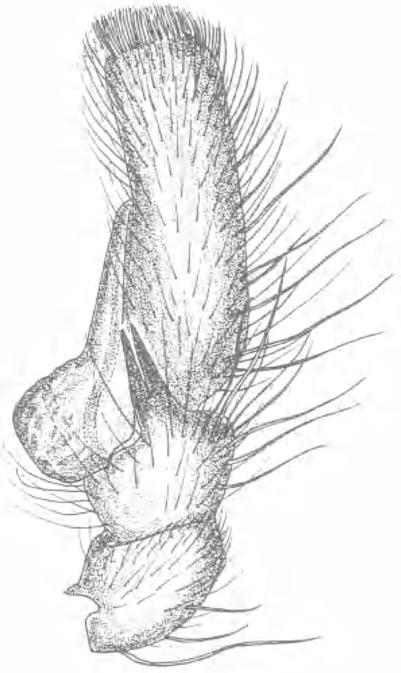


♂ labium and endite









♂ *(syntype of Sandalodes calvus)*

50. FRIGGA CROCUTA (TACZANOWSKI, 1879)

18. Carapace much wider than PLE. Pale green spider with 2 dark longitudinal lines on abdomen. ♀ epigynum with paired fossae, broad median guide; spermathecae level with fossae ..... (Pl. 51) *Mopsus*
- Carapace not much wider than PLE. Colour otherwise. ♀ median fossa, spermathecae anterior to fossa ..... (Pl. 52) *Sandalodes*

19. Lateral tufts of setae below ♀ PME. Striae on *pars thoracica*. Femur I not flattened 20
- Without lateral tufts of setae below ♀ PME. Rarely striae on *pars thoracica*. Femur I laterally flattened 21

20. ♂ embolus very long, coiled round tegulum; tegulum rounded with pronounced apophysis. Tibial apophysis pointed. ♀ small median epigynal fossa. Eye tufts absent in ♂ ..... (Pl. 53) *Gangus* (probably introduced)
- ♂ embolus short, bifid; tegulum with lobe posteriorly; without apophysis. Tibial apophysis bifurcate. ♀ gonopores slit-like and widely separated. Eye tufts present in ♂ ..... (Pl. 54) *'Trite' longula*

21. *Pars cephalica* rising gradually to PLE. ♂ embolus short, running clockwise (in left palp) 22
- *Pars cephalica* almost flat to PLE. ♂ embolus short or long, anti-clockwise 25

22. Band of white hair above lateral edge of carapace. Dorsal abdomen pale. ♂ embolus blunt; membraneous conductor. ♀ with large, shallow epigynal fossae, 0.2 × length of abdomen; gonopores separated ..... (Pl. 55) *Menemerus* (introduced)
- Without band of white hair around carapace. Pale longitudinal median band on dorsal abdomen. ♂ embolus spiniform; without conductor. ♀ with small median epigynal fossa, sometimes absent; gonopores adjoining 23

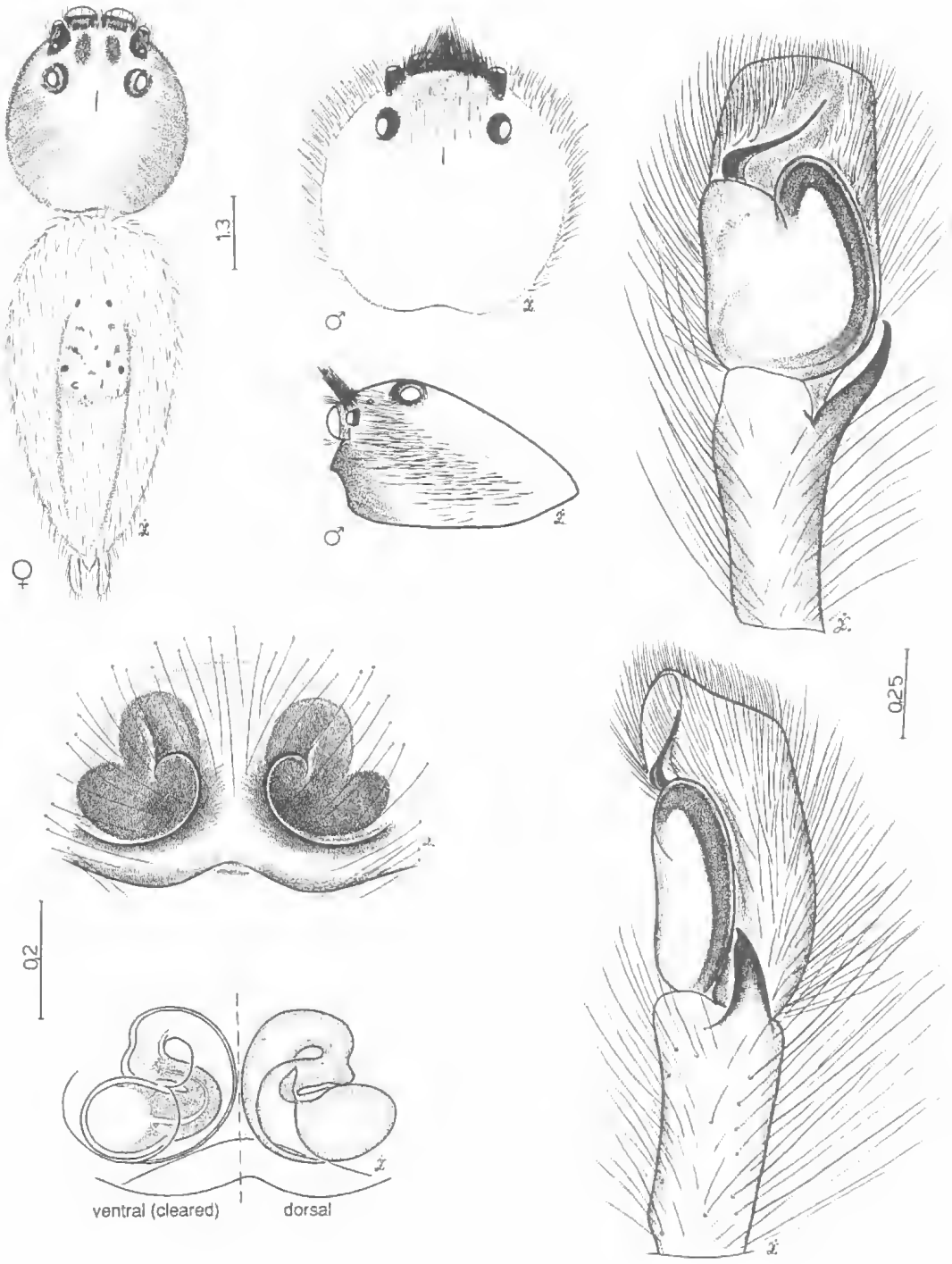
Mopsus mormon, a large and beautiful green spider, is widely distributed in northern Australia. Smaller specimens may occasionally be found as far south as New South Wales. Jackson (1983) found that *Mopsus*, like *Cosmophasis* has three different mating tactics depending on the female's maturity and location. Jackson (1987) discusses non-visual stimuli (pheromones on silk) as releasers of salticid courtship in several genera from different families. *Mopsus* gave a positive response. Main (1976, Colour plate, fig. 23) shows ♂ *M. mormon* and Mascord (1970, Plate 8, figs 29,30) illustrates ♂ and ♀ (as *M. penicillatus*).

Sandalodes bipenicillatus, a large spider, was originally described in *Mopsus*. It was chosen by Keyserling as the type species of the genus, *Sandalodes*. The spider (as *Bavia ludicra*) in Mascord (1970, Plate 11, figs. 39, 40) is probably *Sandalodes* also.

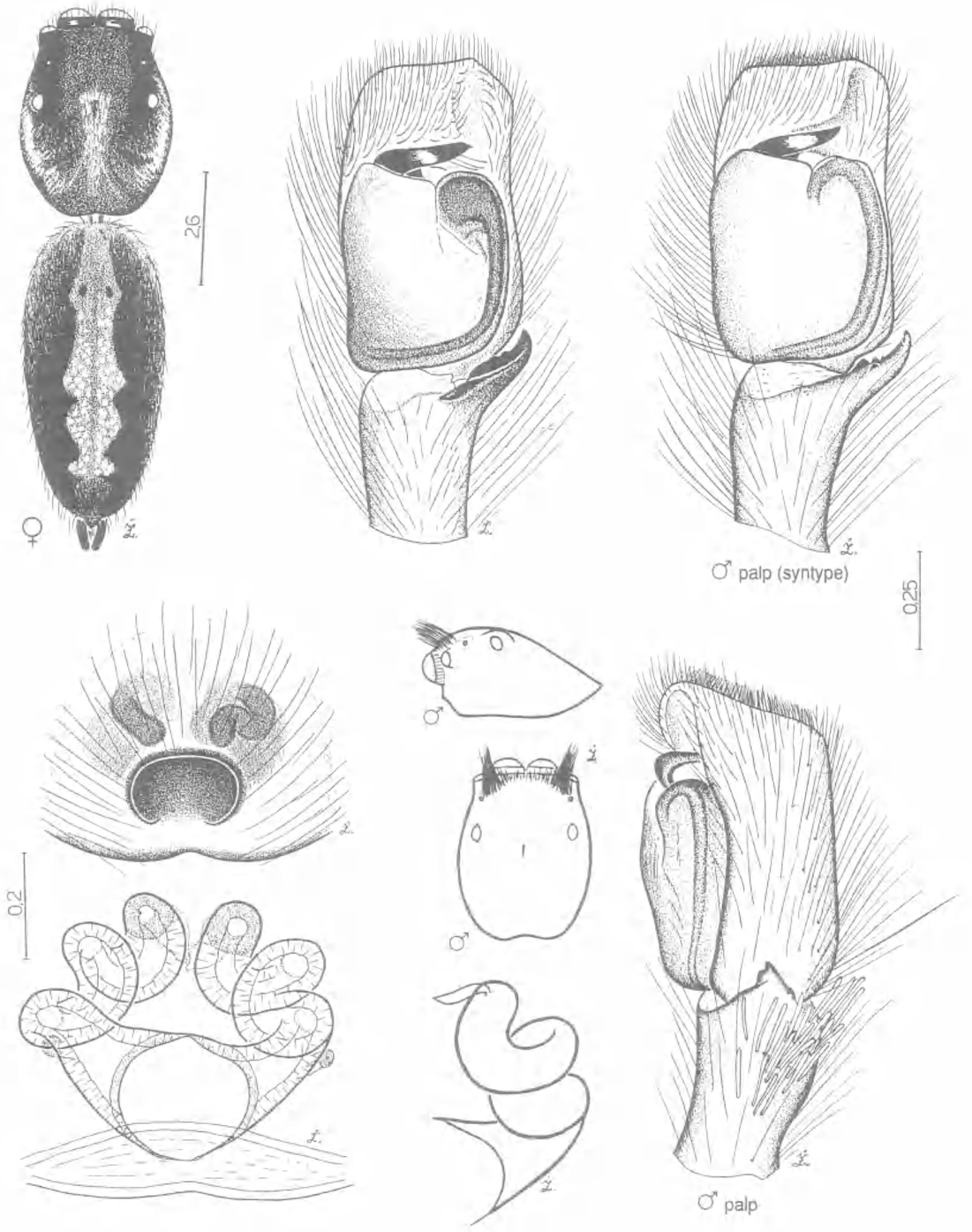
Gangus concinnus is a slender, silvery medium-sized spider common in grassland along eastern Australia north to the Torres Strait Is. It was described as *Acompse concinnus* by Keyserling and later chosen by Simon (1897–1903: 706) as the type species of *Gangus*. In published posthumous notes, Clarke (1974) suggested it was a synonym of *Mithion hesperius* which Prószyński (1987 *in* index) transferred to *Thyene*, though *Mithion* is the earlier name. Prószyński (pers. comm.) has submitted a proposal to the International Commission of Zoological Nomenclature to suppress the older name and retain *Thyene*. We have retained *Gangus* as a valid name for the meantime.

Trite, the type species of which is *T. pennata* from New Caledonia is a fissident spider allied to *Opisthoncus*. *'Trite' longula*, on the other hand, is a unident spider from Cape York Peninsula which was first described as *Marptusa longula* by Thorell. Simon (1897–1903: 829) suggested it perhaps belonged in *Trite* and it has remained there since. It is almost certainly the same spider as *Gangus longulus* Simon which is not congeneric with *Gangus concinnus*.

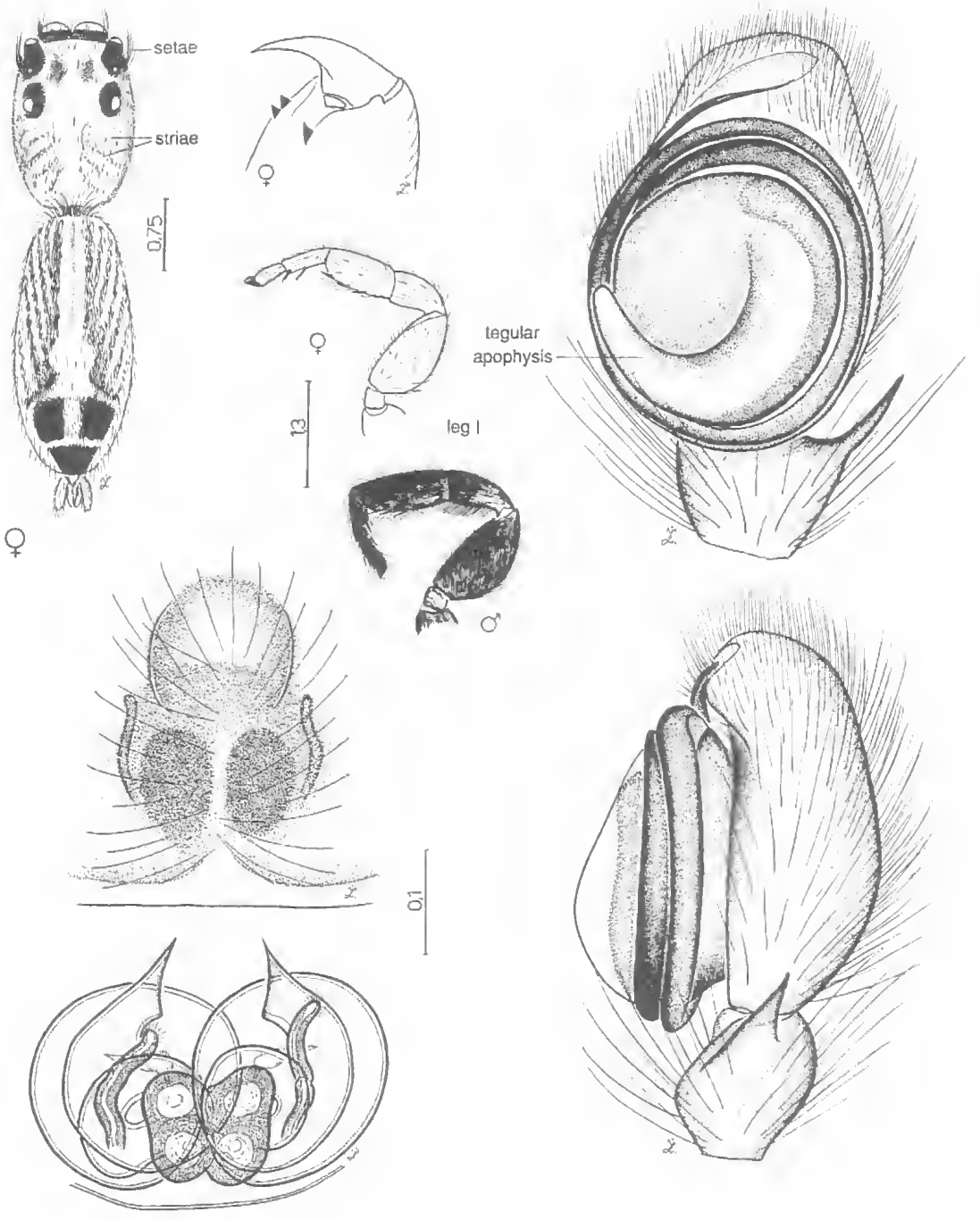
In all the following genera, femur I is laterally flattened. *Menemerus bivittatus* is a cosmopolitan spider which is often found in buildings in eastern Australia.



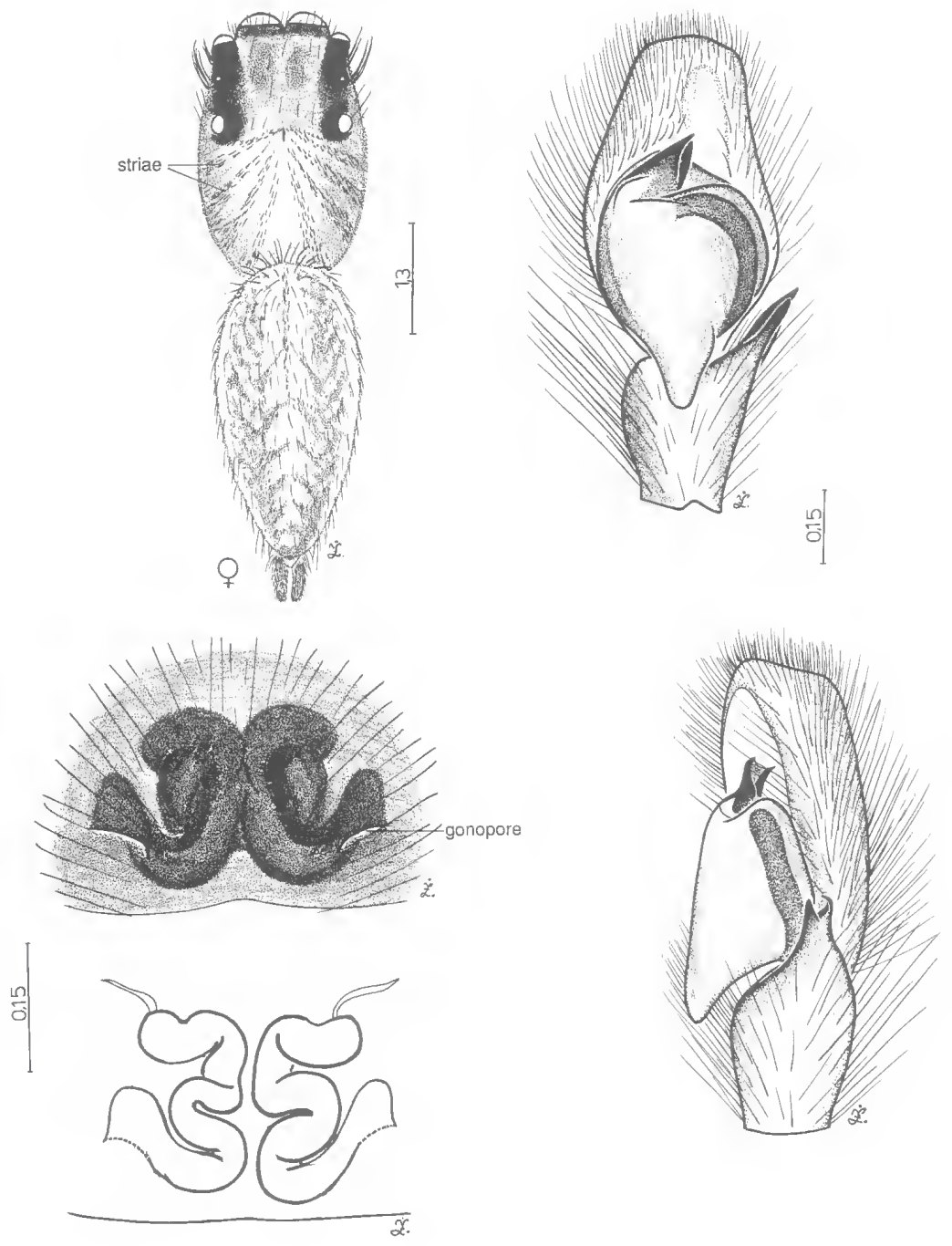
51. MOPSUS MORMON KARSCH, 1878 *



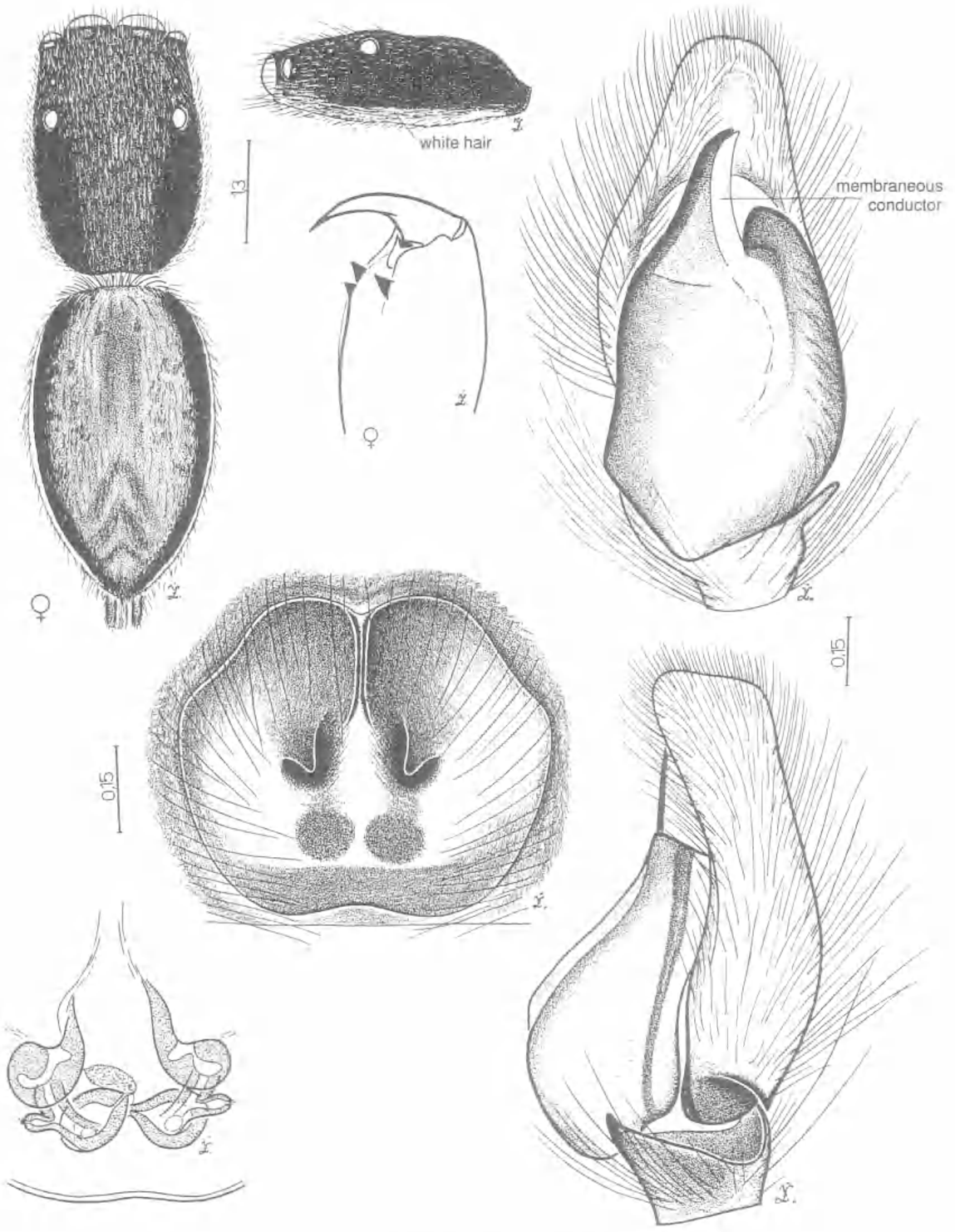
52. SANDALODES BIPENICILLATUS (KEYSERLING, 1882) *



53. GANGUS CONCINNUS (KEYSERLING, 1881) *



54. 'TRITE' LONGULA (THORELL, 1881)



55. MENEMERUS BIVITTATUS (DUFOUR, 1831)

23. Tibia I with 3 regular retrolatero-ventral spines. ♂ endite with retrolateral protuberance .... (Pl. 56) *Clynotis*
– Tibia I with 3 reduced retrolatero-ventral spines or none. ♂ endite rounded 24
24. ♀ tibia I with 3 short prolatero-ventral spines only. ♂ femur, patella, tibia I frioged. ♂ chelicera bowed. ♂ tibial apophysis blunt .....(Pl. 57) *'Menemerus' bracteatus*
– ♀ tibia I without spines. ♂ leg I without fringes. ♂ chelicerae not bowed. ♂ tibial apophysis pointed ..... (Pl. 58) *'Breda' jovialis*
25. Tibia I with 3 pairs of ventral spines. ♂ tegulum with posterior lobe 26
– Tibia I with 2–3 prolatero-ventral spines only or none. ♂ tegulum without posterior lobe 27
26. *Pars thoracica* with 4–6 lines of white hair radiating back from foveal region. ♂ embolus short. ♂ eodite without retrolateral protuberance ..... (Pl. 59) *'Clynotis' albobarbatus*
– *Pars thoracica* without lines of white hair. ♂ embolus very long passing across ventral surface of tegulum and then along edge of elongate cymbium. ♂ endite with retrolateral protuberance .... (Pl. 60) *'Trite' daemelii*
27. Medium-sized spiders. Pair of small, shallow, cephalic depressions between PLE and wider depressed area behind these. Rarely aoy spioes oo tibia I .....(Pl. 61) *Holoplatys*
– Large spiders. Without paired cephalic depressions between PLE. Two prolatero-ventral spines on tibia I .....(Pl. 62) *Ocrisiona*

Icius viduus Koch was chosen by Simon (1897–1903: 611) as the type species of *Clynotis*. *Clynotis viduus*, a medium-sized spider, is fouod uoder the bark of eucalypts. Żabka (1987a) gives a short redescription of the types. The spider from Lake Broadwater (see drawings of habitus, cephalothorax and chelicera) may not be *C. viduus, s. strict.*

'Menemerus' bracteatus is a large spider found under the bark of eucalypts. The small pale patch on the chelicera appears to be present in all salticids. This spider lacks the large ♀ fossae and ♂ conductor of *Menemerus*.

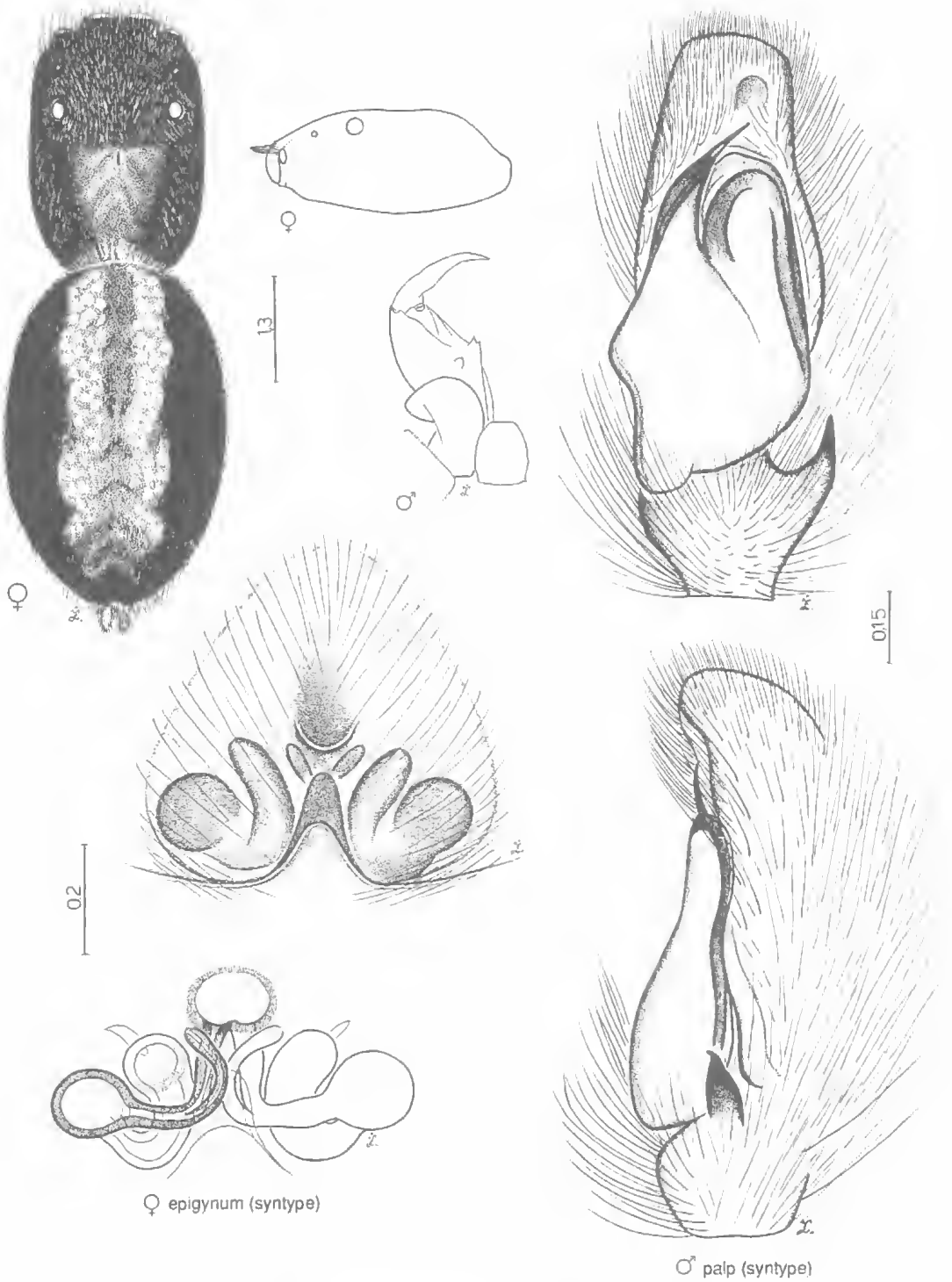
'Breda' jovialis is usually smaller than *'M'. bracteatus* and may be beaten from foliage or takeo from under bark. Mascord (1970, Pl. 9, fig. 33) shows the characteristic yellow marking on the dorsal abdomen. There are several undescribed species and that illustrated may not be *jovialis s.strict*. The ♂ palp of the Ceotral American geous, *Breda* has a long tibial apophysis and long embolus arising posteriorly, quite unlike this spider.

Icius albobarbatus was transferred to *Clynotis* by Rainbow (1911) in his catalogue. Żabka (1987a) redescribed the types as *Clynotis albobarbatus*. *'Clynotis' albobarbatus* is now seen, by its different habitus, epigynum and embolic pattern, to belong to a differeot genus from *Clynotis*. It has several species, most of which are found in litter.

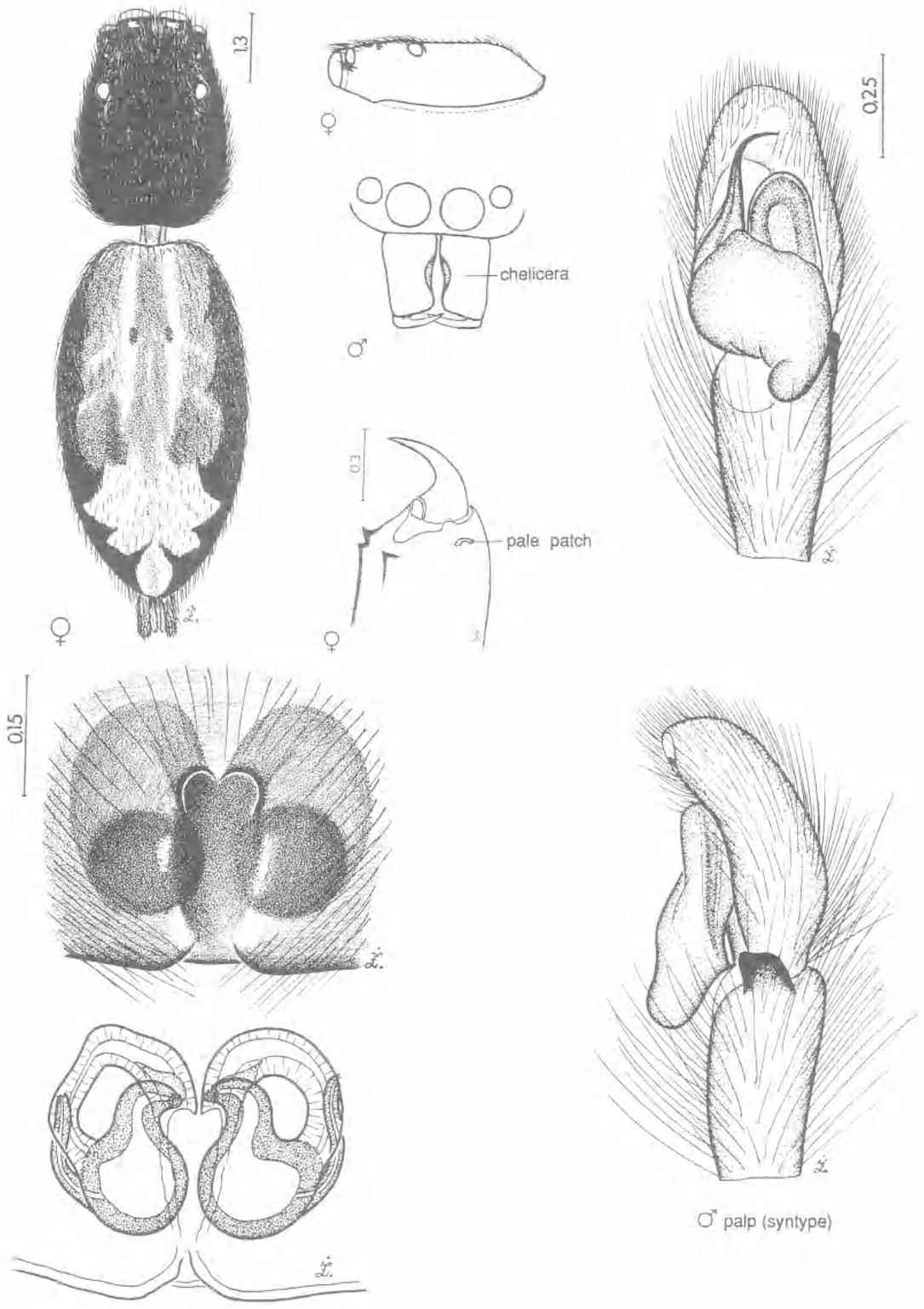
Trite, as mentioned earlier, is a fissident spider allied to *Opisthoncus*. *'Trite' daemelii*, on the other hand, is a distinctive unident spider with very long embolus, very large epigynum and characteristic endite and fang. There are several uodescribed species like *daemelii* and the ♂ specimen illustrated shows slightly different cheliceral dentition from that of Koch and Keyserling (*loc. cit.*); thus it may not be *daemelli s.strict*. The ♂ holotype has not beco located. This is the first time the ♀ has been illustrated.

Simoo (1885: LXXXIX) chose *Marptusa planissima* L. Koch to be the type species of *Holoplatys*. *Holoplatys* is a very flat, medium-sized spider usually found under the bark of eucalypts. Mascord (1970, Pl. 10, fig. 38) shows ♀ *Holoplatys*. Jackson and Harding (1982) studied the intraspecific interactioo of a New Zealand species and found that the ♂ had three different mating tactics depending on the female's age and location. Jackson (1987), comparing the releaser pheromones associated with the ♀ silk, found that two *Holoplatys* spp. were the only spiders of the 36 tested that did not respond to the nest of conspecific females.

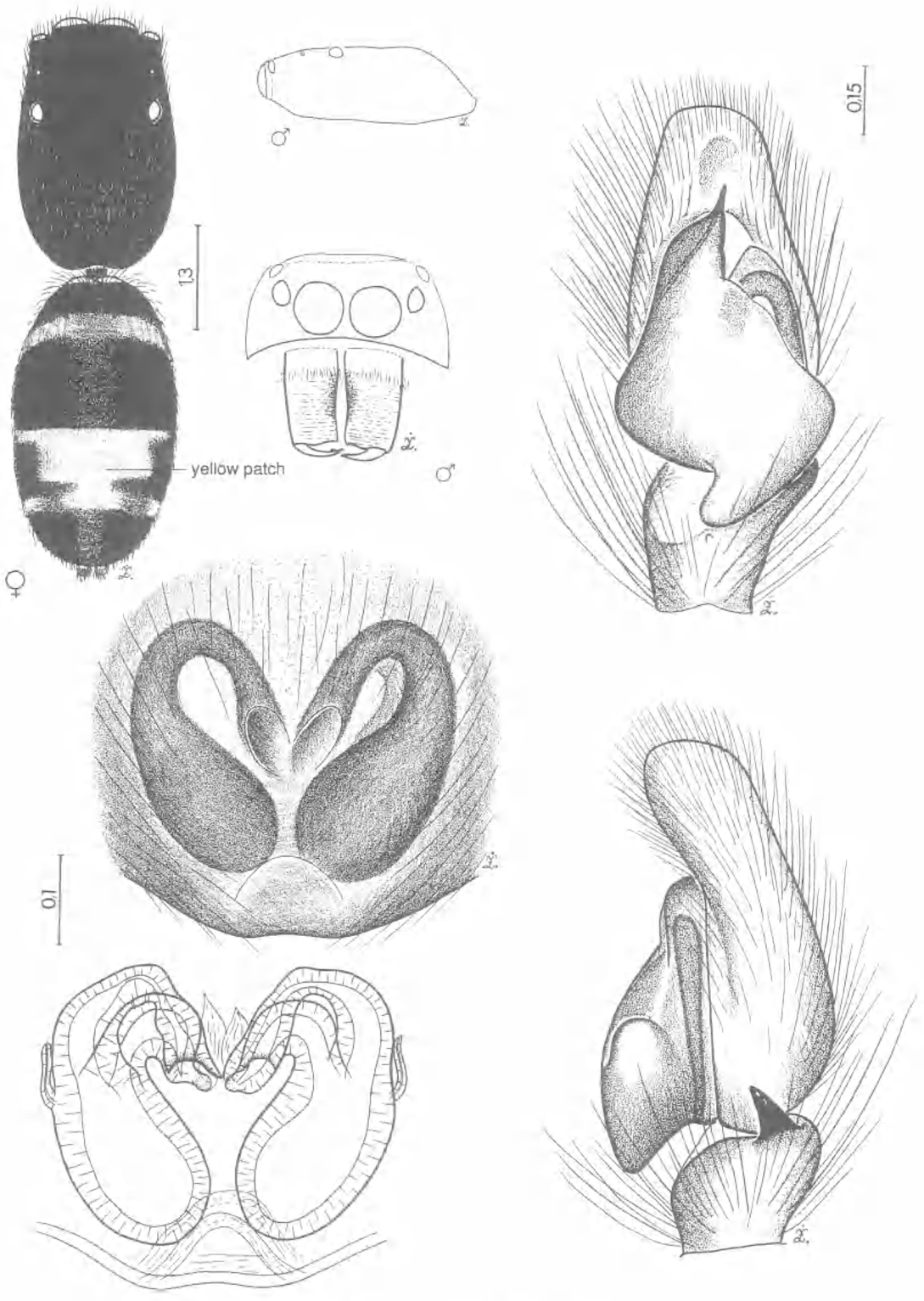
Simon (1897-1903: 609) chose *Marptusa leucocomis* L. Koch to be the type species of *Ocrisiona*. *Ocrisiona* is a large spider which lacks the paired cephalic depressions of *Holoplatys*; it is found in similar locations, under bark or beaten from foliage. Mascord (1970, Pl. 11, fig. 41) shows ♀ and ♂ *Ocrisiona*. The syntype illustrated is from Port Mackay, a locality not listed by Keyserling (Koch and Keyserling *loc. cit.*) so it may not be *O. leucocomis s.strict*.



56. CLYNOTIS VIDUUS (L. KOCH, 1879) *

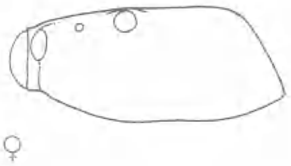


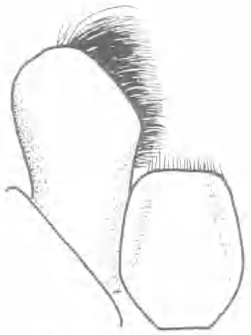
57. 'MENEMERUS' BRACTEATUS (L. KOCH, 1879)



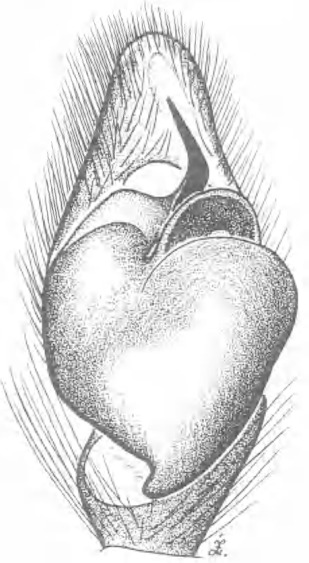
58. 'BREDA' JOVIALIS (L. KOCH, 1879)

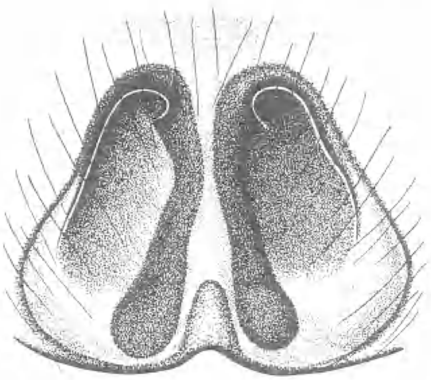
*This is the *rr* ♂ palp; the *l* embolus is not anti-clockwise as stated in the key.

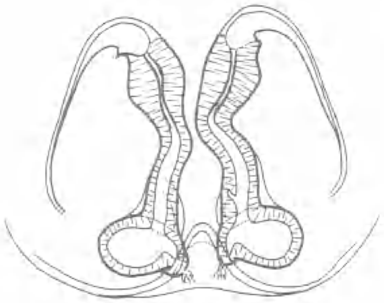




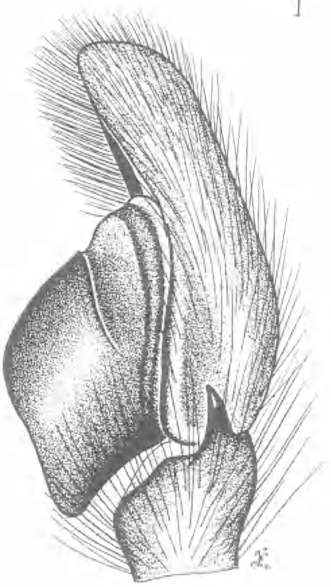
♂ labium and endite





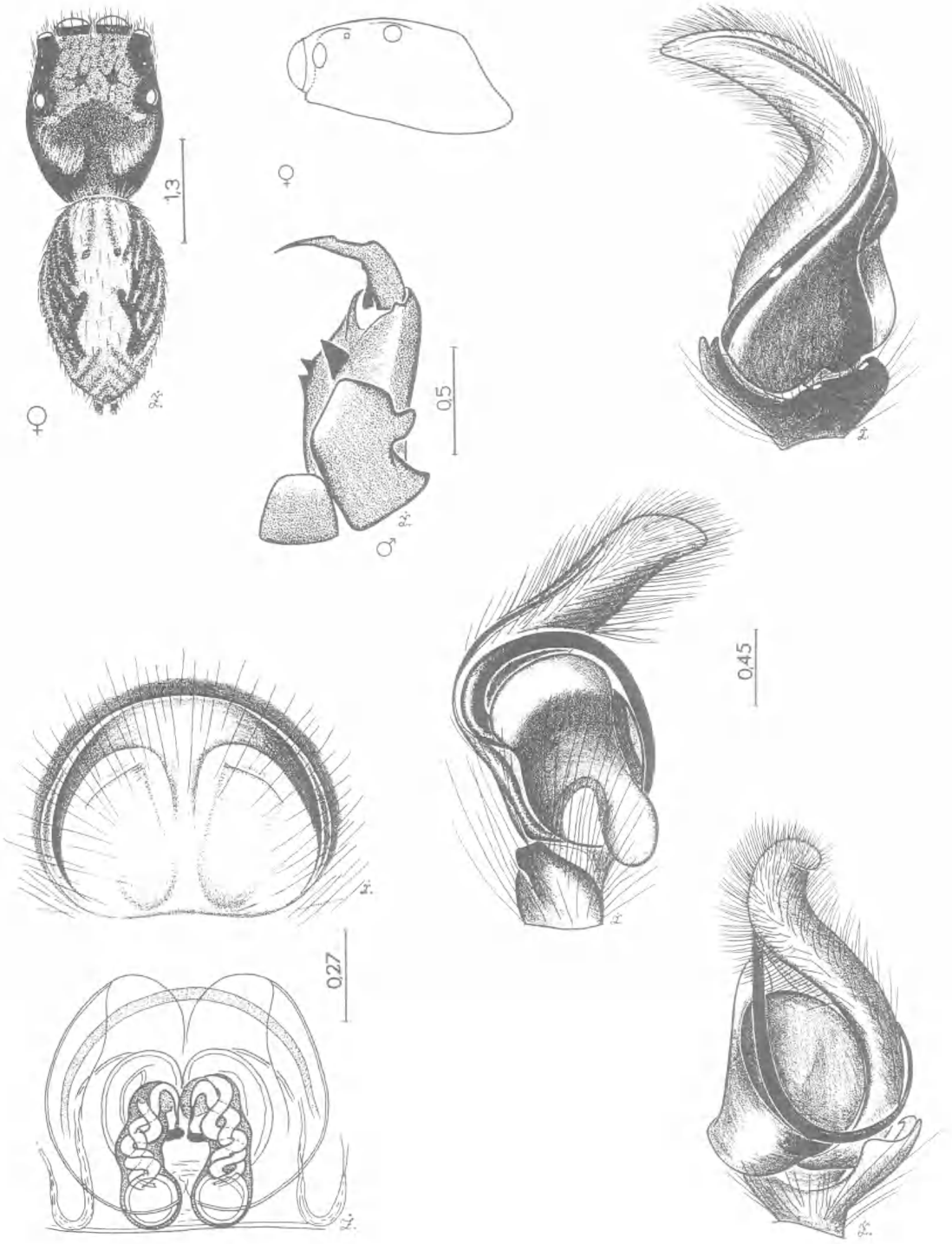


♀ epigynum (syntype)

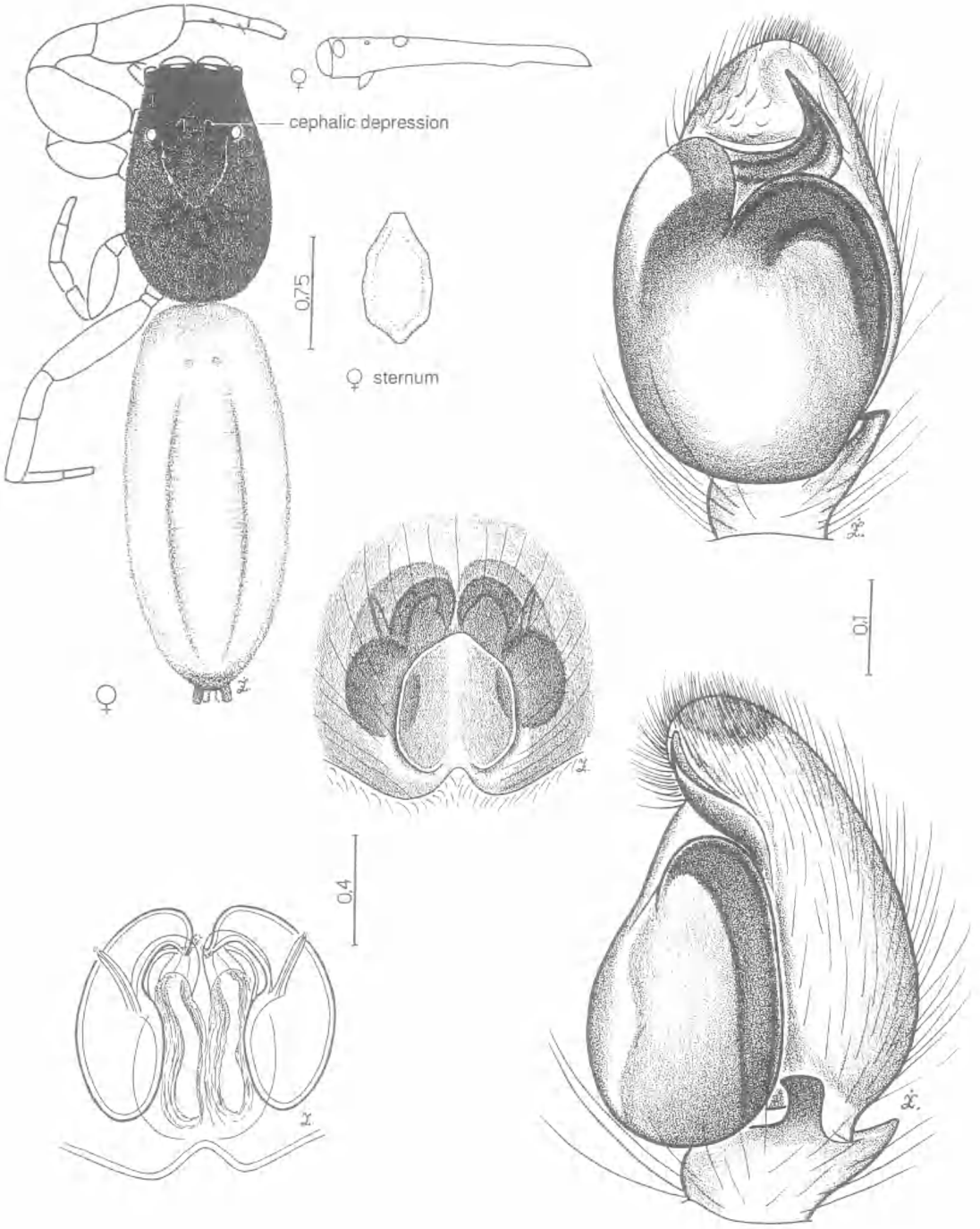


♂ palp (syntype)

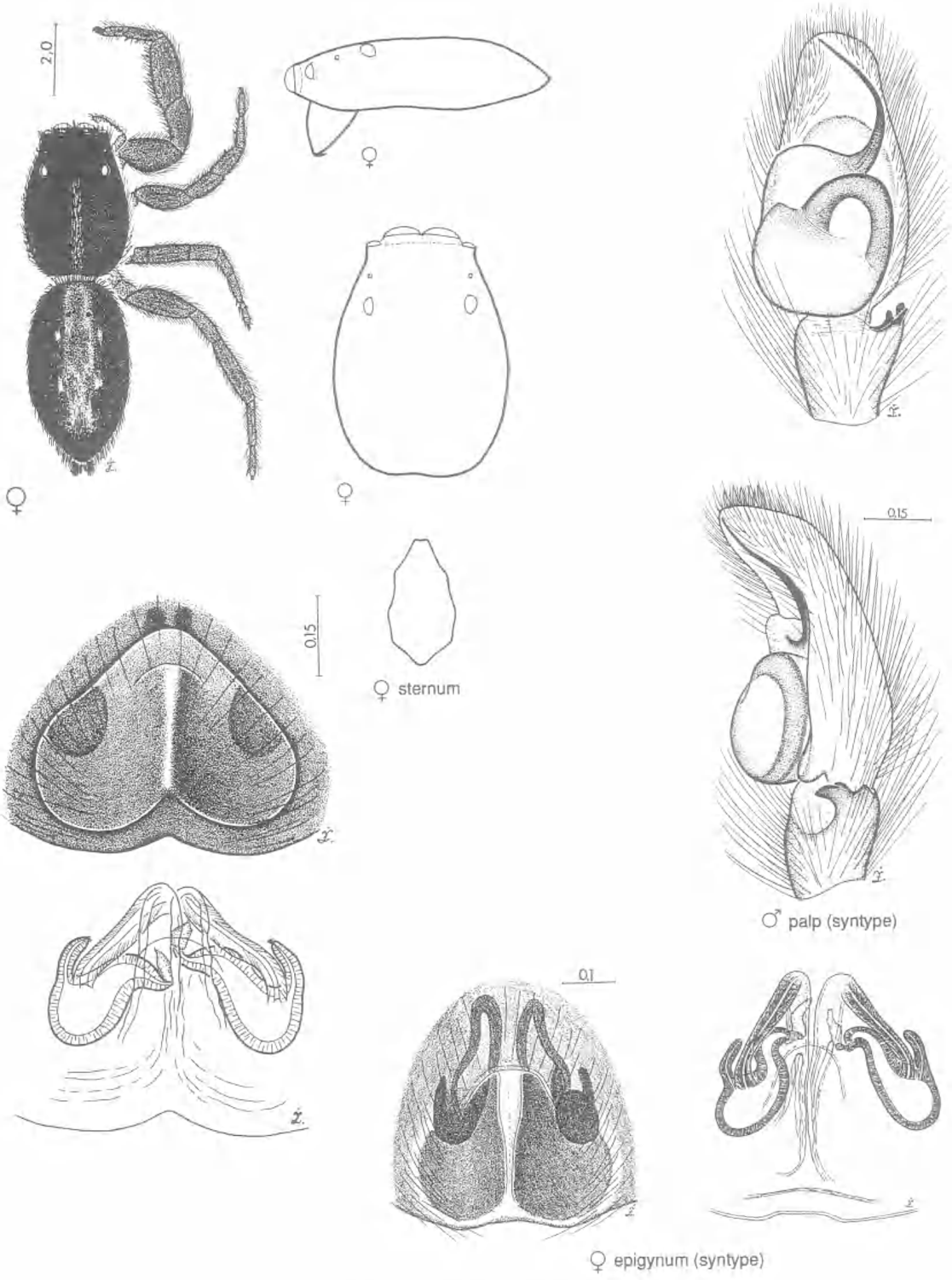
59. 'CLYNOTIS' ALBOBARBATUS (L. KOCH, 1879)



60. 'TRITE' DAEMELII (KEYSERLING, 1883)



61. HOLOPLATYS PLANISSIMA (L. KOCH, 1879) *



62. OCRISIONA LEUCOCOMIS (L. KOCH, 1879) *

LITERATURE CITED

CHRYSANTHUS, O.F.M. 1968. Spiders from South New Guinea X. *Tijd. voor entomol.* **111**: 49–74.

CLARKE, D.J. 1974. Notes on Simon's types of African Salticidae. *Bull. Br. arachnol. Soc.* **3**: 11–27.

COLEMAN, N. CLYDE, 1978. A spider aberration — *Linus fimbriatus*. *N. Qld Naturalist* **44**(172): 5.

DAVIES, V. TODD. 1986. 'Australian Spiders (Araneae). Collection, preservation and identification'. 60pp. (Queensland Museum: Brisbane).

GALIANO, M.E. 1979. Revision del genero. *Frigga* C.L. Koch, 1851 (Araneae, Salticidae). *Acta zool. lilloana* **33**: 113–135.

GRISWOLD, C.E. 1984. *Coccorchestes* Thorell newly described from Australia (Araneae : Salticidae). *Bull. Br. arachnol. Soc.* **6**: 147–148.

GWYNNE, D.T. AND DADOUR, I.R. 1985. A new mechanism of sound production by courting male jumping spiders (Araneae : Salticidae, *Saitis michaelseni* Simon). *J. Zool., Lond.* (A)(1985) **207**: 35–42.

JACKSON, R.R. 1982a. The biology of *Portia fimbriata*, a web-building jumping spider (Araneae, Salticidae) from Queensland, intraspecific interactions. *J. Zool., Lond.* **196**: 295–305.

1982b. The biology of ant-like jumping spiders: intraspecific interactions of *Myrmarachne lupata* (Araneae, Salticidae). *Zool. J. Linn. Soc.* **76**: 293–319.

1983. The biology of *Mopsus mormon*, a jumping spider (Araneae : Salticidae) from Queensland: intraspecific interactions. *Aust. J. Zool.* **31**: 39–53.

1985a. A web-building jumping spider. *Scientific American* **253**(3): 102–114.

1985b. The biology of *Euryattus* sp. indet., a web-building jumping spider (Araneae, Salticidae) from Queensland: utilisation of silk, predatory behaviour and intraspecific interactions. *J. Zool., Lond. (B)***1**: 145–173.

1985c. The biology of *Simaetha paetula* and *S. thoracica*, web-building jumping spiders (Araneae, Salticidae) from Queensland: co-habitation with social spiders, utilisation of silk, predatory behaviour and intraspecific interaction. *J. Zool., Lond.* (B)**1**: 175–210.

1986a. The biology of ant-like jumping spiders (Araneae : Salticidae): prey and predatory behaviour of *Myrmarachne* with particular attention to *M. lupata* from Queensland. *Zool. J. Linn. Soc.* **88**: 179–190.

1986b. The display behaviour of *Bavia aericeps* (Araneae : Salticidae), a jumping spider from Queensland. *Aust. J. Zool.* **34**: 381–409.

1986c. The display behaviour of *Cosmophasis micariodes* (Araneae, Salticidae), a jumping spider from Queensland. *N.Z. Journ. Zool.* **13**: 1–12.

1987. Comparative study of releaser pheromones associated with the silk of jumping spiders (Araneae, Salticidae). *N.Z. Journ. Zool.* **14**: 1–10.

1988a. The biology of *Jacksonoides queenslandica*, a jumping spider (Araneae, Salticide) from Queensland: intraspecific interactions, web-invasion predators, and prey. *N.Z. Journ. Zool.* **15**: 1–37.

1988b. The biology of *Tauala lepidus*, a jumping spider (Araneae, Salticidae) from Queensland: display and predatory behaviour. *N.Z. Journ. Zool.* **15**: 347–364.

JACKSON, R.R. AND HALLAS, S.E.A. 1986a. Comparative biology of *Portia africana, P. albimana, P. fimbriata, P. labiata* and *P. shultzi*, araneophagic, web-building jumping spiders (Araneae, Salticidae): utilisation of webs, predatory versality and intraspecific interactions. *N.Z. Journ. Zool.* **13**: 423–489.

1986b. Predatory versatility and intraspecific interactions of spartaeine jumping spiders (Araneae : Salticidae): *Brettus adonis, B. cingulatus, Cyrba algerina,* and *Phaeacius* sp. indet. *N.Z. Journ. Zool.* **13**: 491–520.

JACKSON, R.R. AND HARDING, D.P. 1982. Intraspecific interactions of *Holoplatys* sp. indet., a New Zealand jumping spider (Araneae, Salticidae). *N.Z. Journ. Zool.* **9**: 487–510.

KOCH, L. AND KEYSERLING, E. 1871–1883. 'Die Arachniden Australiens'. 2 vols. 1489 pp. 123 pls. (Bauer & Raspe. Nürnberg).

MAIN, B.Y. 1976. 'Spiders'. 296 pp. (Collins: Sydney).

MASCORD, R. 1970. 'Australian Spiders in Colour'. 112 pp. (A.H. and A.W. Reed Pty Ltd: Sydney).

PECKHAM, G.W. AND PECKHAM, E.G. 1885. Genera of the family Attidae: with a partial synonymy. *Trans. Wis. Acad. Sci. Arts. Lett.* **6**: 255–342.

PETRUNKEVITCH, A. 1928. 'Systema Aranearum'. *Trans. Conn. Acad. Arts and Sci.* **29**: 1–270.

PRÓSZYŃSKI, J. 1984. Diagnostic drawings of less known Salticidae (Araneae) — an atlas. *Zesz. nauk. WSR-P, Siedlce* [**1**]: 1–177.

1987. Diagnostic drawings of less known Salticidae (Araneae) 2. an atlas. *Zesz. nauk. WSR-P, Siedlce* **2**: 1–172.

RAINBOW, W.J. 1911. A census of Australian Araneidae. *Rec. Aust. Mus.* **9**: 107–391.

SIMON, E. 1885. Matériaux pour servir à la faune arachnologique de la Nouvelle Calédonie. *Ann. Soc. ent. Belg., 29,* C.R. :LXXXVII-XCII

1887. [Observations sur divers Arachnides: synonymies et descriptions] *Ann. Soc. ent. Fr. (6) 7 Bull:* CLVI-CXCV.

1897–1903. 'Histoire Naturelle des Araignées', 2nd edition 2: 1–1080. *Salticidae*: 381–1080. Paris.

WANLESS, F.R. 1978a. A revision of the spider genera *Belippo* and *Myrmarachne* (Araneae, Salticidae) in the Ethiopian region. *Bull. Br. Mus. nat. Hist. (Zool.)* **33**: 1–139.

1978b. A revision of the spider genus *Portia* (Araneae : Salticidae). *Bull. Br. Mus. nat. Hist. (Zool.)* **34**: 83–124.

1981. A revision of the spider genus *Cocalus* (Araneae : Salticidae). *Bull. Br. Mus. nat. Hist. (Zool.)* **41**: 253–261.

1984a. A review of the spider sub-family Spartaeinae nom. n. (Araneae : Salticidae) with descriptions of six new genera. *Bull. Br. Mus nat. Hist. (Zool.)* **46**(2); 135–205.

1984b. A revision of the spider genus *Cyrba* (Araneae : Salticidae) with the description of a new presumptive pheromone dispersing organ. *Bull. Br. Mus. nat. Hist. (Zool.)* **47:** 445–481.
1988. A revision of the spider group Astieae (Araneae : Salticidae) in the Australian region. *N.Z. Journ. Zool.* **15:** 81–172.
WILLIAMS, D.S. AND MCINTYRE, P. 1980. The principal eyes of a jumping spider have a telephoto component. *Nature* **288:** 578–580.
ZABKA, M. 1987a. Salticidae (Araneae) of Oriental, Australian and Pacific regions, 1. Genera *Clynotis* and *Tara*. *Anns zool., Warsz.* **40:** 437–450.
1987b. Salticidae (Araneae) of Oriental, Australian and Pacific regions, II. Genera *Lycidas* and *Maratus*. *Anns zool., Warsz.* **40:** 451–482.
1988. Salticidae (Araneae) of Oriental, Australian and Pacific regions, III. *Anns. zool. Warsz.* **41:** 421–479.

APPENDIX

A list of the spiders that are illustrated, their geographical localities and the Museums in which the type specimens, that have been examined, are located. Unless indicated, the rest of the material is from the collections in the Queensland Museum.

PLURIDENTATI

Arasia mollicoma ♂ syntype, Bowen, MEQ (ZMH); ♀ (AM).
Astia hariola ♀♂, Lake Broadwater nr Dalby, SQ.
Bavia aericeps ♀♂, Cape Tribulation, NEQ.
Cocalus gibbosus ♂ holotype, Lockerbie, Cape York, NQ (QM); ♀, Shiptons Flat, NQ.
Copocrossa tenuilineata ♀, Mission Beach, NEQ.
Cyrba ocellata ♀, Wilson Is., MEQ; ♂, Wharton Reef, Great Barrier Reef, NEQ.
Damoetas nitidus ♂ syntype of *Scirtetes nitidus*, Sydney, NSW (ZMH), ♂ palp; ♀, Oatley Park, Sydney, NSW (AM); ♂, Rochedale, Brisbane, SEQ, other drawings.
Helpis minitabunda ♀♂, Noosa, SEQ.
Jacksonoides kochi ♀♂, Home Rule nr Helenvale, NQ (det. F. Wanless).
Ligonipes sp. ♀♂, Brisbane, SEQ.
Ligonipes lacertosus ♀, Somerset, Cape York, NQ.
Ligonipes semitectus ♀, syntype of *Haterius semitectus*, Cooktown, NEQ (ZMK).
Mintonia sp. ♀, Kuranda, NQ (AM); ♂ *M. tauricornis*, Sarawak, ♂ palp, after Wanless (1984).
Myrmarachne spp. ♀, Brisbane, SEQ; ♂, Goomeri, SQ.
Portia fimbriata ♀, Cairns; ♂ Cape Tribulation, NEQ.
Rhombonotus gracilis ♀♂, Lake Broadwater, nr Dalby, SQ.
Sondra nepenthicola ♂ holotype, ♀ paratype, Seary's Scrub, Cooloola, SEQ (QM).
Tauala lepidus ♂ holotype, ♀ paratype, Crystal Cascades nr Cairns, NEQ (QM).

FISSIDENTATI

Adoxotoma nigroolivacea ♀ syntype, Perth, WA (ZMB), epigynum and leg I; other illustrations of syntype after Wanless (1988).
Canama hinnuleus ♀, Airlie Beach, MEQ; ♂, Brandy Ck nr Proserpine, MEQ.
Cytaea alburna ♀, Trinity Beach, NEQ; ♂, Gin Gin, SQ.
Diolenius sp. ♀♂, Dividing Range, 15 km W Captain Billy Ck, Cape York, NQ.
Ergane cognata ♂ holotype, Pellew Islands, Gulf of Carpentaria, NT (ZMH), ♂ palp, chelicera; habitus copied from Koch & Keyserling (1871–1883).
Euryattus bleekeri ♀, Homevale, MQ, ♂, Cairns, NEQ.
Harmochirus brachiatus ♀♂, West Alligator River mouth, NT.
Hasarius adansoni ♀, Heron Is, MEQ; ♂, Brisbane, SEQ.
Opisthoncus parcedentatus ♀♂, Lake Broadwater nr Dalby, SQ.
Servaea vestita ♀♂, Lake Broadwater nr Dalby, SQ.
Simaetha thoracica ♀♂, Gordonvale, NQ.
Simaethula spp. ♀, Cape Tribulation, NEQ; ♂, Brisbane, SEQ.
Tara anomala ♂ holotype, Sydney, NSW (ZMH), ♂ palp; habitus copied from Koch & Keyserling (1871–1883). *Tara* sp. ♂, Mt Tenison Woods nr Brisbane, SEQ; habitus, ♂ palp.

UNIDENTATI

Bianor maculatus ♀♂, Lake Broadwater nr Dalby, SQ.
'Breda' jovialis ♀♂, Brisbane, SEQ.
'Clynotis' albobarbatus ♀♂, syntypes, Sydney, NSW (ZMH); epigynum, ♂ palp. ♀, Gold Ck, Brisbane, SEQ, habitus.
Clynotis viduus ♂♂ syntypes of *Icius viduus*, Sydney, NSW, Peak Downs, MQ, Rockhampton, MEQ (ZMH), ♂ palp; ♀ syntype (ZMB), epigynum. ♀♂, Lake Broadwater nr Dalby, SEQ; habitus, other drawings.
Coccorchestes ferreus ♀ holotype, Iron Ra, Cape York, NQ (QM); ♂, Iron Ra, Cape York, NQ.
Cosmophasis sp. ♀♂, Clifton Beach, NEQ.
Frigga crocuta ♀♂ syntypes of *Sandalodes calvus*, Cooktown, NEQ (MNHP).
Gangus concinnus ♀, Lake Broadwater nr Dalby, SQ; ♂, Murray Is., Torres Str. Is.
Holoplatys planissima ♀, Booubyjan via Tansey, SQ; ♂, Brisbane, SEQ.
Hypoblemum sp. ♀♂, Cedar Ck, Samford nr Brisbane, SEQ.
Jotus auripes ♂, Flat Rock, NSW (AM).
Lycidas sp. ♀♂, Brisbane, SEQ.
'Lycidas' michaelseni ♀♂, Perth, WA.
Maratus sp. ♀♂, Rochedale, Brisbane, SEQ.
Margaromma funestum ♀ syntype, Cape York, NQ (BMNH).
Menemerus bivittatus ♀♂, Brisbane, SEQ.

'Menemerus' bracteatus ♂ syntype, Rockhampton, MEQ (ZMH), ♂ palp, chelicerae. ♀, Lake Broadwater nr Dalby, SQ, habitus, epigynum.
Mopsus mormon ♀, Koah Rd, NEQ; ♂, Darwin, NT.
Ocrisiona leucocomis ♀♂, syntypes, Port Mackay, MEQ (BMNH), epigynum, ♂ palp. ♀, Botany, NSW (AM), habitus, epigynum.
Omoedus sp. ♀♂, Iron Range, NQ.
Palpelius beccarii ♂, Lockerbie, Cape York, NQ; ♀, Bamaga, Cape York, NQ.
Plexippus paykullii ♀, Forth Is, Great Barrier Reef; ♂, Pelican Is, Great Barrier Reef, NEQ.
Prostheclina pallida ♀, syntype, Sydney, NSW (BMNH), epigynum, lateral carapace. ♀, ♂, Kroombit Tops, SQ, other drawings.
'Salpesia' squalida ♀, Salvator Rosa National Park, SQ; ♂ palp copied from Koch & Keyserling (1871–1883).
Sandalodes bipenicillatus ♂, syntype, Sydney, NSW (ZMH), ♂ palp; ♀, Kroombit Tops, SQ; ♂, Rochedale, Brisbane, SEQ, other drawings.
'Trite' daemelii ♀♂, Brookfield, Brisbane, SEQ.
'Trite' longula ♀, Yule Pt, NEQ; ♂ Mt Molloy Rd, NQ. ♂ holotype of *Marptusa longula*, Somerset, NQ (MCG) examined and sketches made (VTD) in 1977.
Zenodorus durvillei ♀, Shipton's Flat, NQ; ♂, Lockerbie, Cape York, NQ.
Zenodorus metallescens ♀♂, Clifton Beach, NEQ.
Zenodorus orbiculatus ♀♂, Kroombit Tops, SQ.